All Fifer born Fishing, should be termed Denning. Tho' Fene born Upright, should be termed Manrant. And tho' so many Trippers are of the British Comerce. A great Quantity of Veelfs and Sea-men are employ'd therein; and before what is spent at home, above 200000 Pounds Sterling is yearly return'd merely for Fishing. As the Dutch, French, and Fisters, are the greatest of the British Commere. The Chief Merchants of the several Provinces affix themselves into a Body; for the carrying it on; and send every Year a great Fleet of Veelfs to the North Seas for the pur- \purs of Fising. But by their Wisdom and Experience in the Art of Fising, they have been able to do this, without any Expense; That the Crew defeat a shipwreck'd Veelf, they shall have no Claim to any of the Effects faved; but the whole shall go to the Proprietors; but if they have faved, and still therein, they have one Fourth thare. That if a Person kill a Fife on the lee, it shall be repaid his own, so long as he leaves any
any Peron with it; but the Minute he leaves it, it becomes the Due of the first Captant that comes that way; but that if a Fith be tied to an Anchor, or a Rope fatter'd to the Shelves, to draw in the Fish, they are all for ever to exe-
cute, in Presence of one of the Commanders, who goes a-
board every Ship, to receive the Oath.

This Regulation is a Kind of Charter-Party, importing, That the Captain shall attend Parking, Morning, and Evening, or pain of an Amencement, at the Direction of the Captain: That they will not get drunk; nor draw their Knives, on Forfeiture of their Wages; nor fight, on Forfeiture of their Lives. This may be substituted for any or all Succes of the Fishing; or buy, or sell on such Con-
dition, In caf we take one or more Fith, on Penalty of 21 Florins: That they will be contented with the Provisions allowed them; and that they will never light Fire, Candle, or Match, by Night or Day, without the Captain's Leave, on the like Penalty.

After the Reading of this Regulation, the Crew are all called to receive the Cudinary Gratuity before their Set-
ing out, with an Affurance of another Sum at their Ret-
urn, in Proportion to the Succes of the Fishing.

The Captain, on this Occasion, receives from 150, to 175, for his own Share; from 80, to 100, for the Harpinner, from 40, to 50 Florins; the other Officers, from 26, to 36 Florins; the elder Sailors 20; and the younger 12.

The Eeats, which consists mostly of Eats, from two to three hundred Tun's, and from 23 Mils. to 66 Mils., usually falls about the Beginning of April, and takes in Course by the Isles of Ireland, from 60 to 61 Degrees of Latitude; after which, leaving them to the Weath, it steers Northward, from 15° 74', and 17° Deg. of Lat., where they begin to find the Ice.

Is through these huge Heaps of Ice, whereith the whole Quarantine is filled, there they first begin to try the Whales: And there most of the Ship's Abode for the Fishing. But, as the Fith are larger and fatter, the further North you go; some Captains will venture as far as 76° 55'.

Each Veefol of 500 Tuns has fix Chaloupes, and each Chaloupe fix Harpinniers, with five Seamen, to row it. To every Chaloupe there are seven Lines, of three Inches Circumference, made up of the Veefol and the Veefol, and two behind. The hind Lines together make fix hundred Fathom, and with the Addition of the other two, 850. If the Whale dive deeper, or run further underneath the Line, the Line must be cut, let the Chaloupe be drawn after it.

The Instrumint, wherewith the Execution is done, is a harping Iron, or Javelin, five or fix Foot long, pointed with Steel, in the middle of one Triangle, and a small Arrow.

The Harpinner, upon sight of the Fith, from one End of the Chaloupe, where he is plac'd, fits the harping Iron with all his Might against the Whales Back; and if he be so happy as to make it penetrate, and drive the Blade, and Fat, into the Fith, he lets go a String, fatten'd to the harping Iron, at the End whereof is a dry Grour, which swimming on the Water, discovers whereabout the Whale is; who, the Harpinner finding the String, makes as it were to the Bone. If the Whale return to breathe in the Air, the Harpin-
ner takes occasion to give him a fresh Wound; till, fainting by the Loss of Blood, the Men have an Opportunity of seizing the Harpinner, and landing him on the Small-Gun under his Guns into his Breast, and then the Intelleastics, which dispatches him: And when the Carca's begins to flit, they cut off the Fins, and Tail; and tying a Rope to the Fins, and one of the Tail, fixed to the Veefol, where he is taken in.

When they have got their Quota of Whales, they begin to take the Brubber, or Fat, and the Fins; or Whale-bone. It is the Whale-bone that is the Value of the Whales; for in the steps suspend above the Water, by two Ropes, the one tied around his Neck, the other about his Tail; and under the Carcas are two Chaloupes, placed to receive what chance it may happen to drop.

This done, three or four Men go down upon the Whale, with a kind of Catfers, or Irons on their Feet to prevent their Slipping. They begin to open him on the Side, and proceed to get his Head, the Belly, cutting off all the Fat, in Pieces of about three Foot broad, and eight Foot long; Beside the Fat on the Sides, they likewise cut off that of the Throat, and the under Lip, leaving all the lean be-
hind. They next proceed to the Whale-bone, which they cut off with a Hatchet, made for the purpose, from the upper Jaw of the Fith, and make it up in Patches. The Fat and Bone thus procured, what remains of the Whale, they leave for the Beors, who are very fond of it. In Proper Seasons, as the Large Pieces of Fat are cut off, the rest of the Crew are employed in fleming them fatter, and picking out all the Lean. When this is prepared, they flow it under the Deck, where it lies, till the Fat of all the Whales is cleaned, and then, cutting it up, they put it in Tubs, in the Hold, or Bottom of the Veefol, cram-
ing them very full and close.

Nothing now remains, but to fall homewards, where the Fat is to be boiled, and melted down into Train Oil. See WHALE.

Produce of One Year; Whale Fishery.

To flate the Produce, we make choice of the Fishery of 1697, as being the greatest, and most forcate, that ever was known: To which we shall add that of the preceeding Year.

In the Year 1697, there were an hundred, ninety eight Veefols of divers Nations, whereof an hundred, twenty nine were Dutch; forty seven Hamburgers; two Sveds; fourteen Dutch; twelve of Breemers; two of Embden; and one of Lubek.

In the present Year 1725, there were 2:25 Veefols; where-
of 144 were Dutch; twelve Englifh; forty three Hamburgers; twenty three Breemers; one and twenty of Berghen; two of Fleniburg. Their Captures each Year were as follow.

In 1697,

<table>
<thead>
<tr>
<th>Country</th>
<th>Whales</th>
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<tbody>
<tr>
<td>Coffee</td>
<td>129</td>
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<tr>
<td>Sveds</td>
<td>89</td>
</tr>
<tr>
<td>Breemers</td>
<td>12</td>
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<tr>
<td>Embden</td>
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<td>Lubek</td>
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In all, 197 Veefols took 156 Whales.

In 1725,

<table>
<thead>
<tr>
<th>Country</th>
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<tbody>
<tr>
<td>Coffee</td>
<td>114</td>
</tr>
<tr>
<td>Sveds</td>
<td>62</td>
</tr>
<tr>
<td>Breemers</td>
<td>25</td>
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<tr>
<td>Berghen</td>
<td>16</td>
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<tr>
<td>Fleniburg</td>
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In all, 220 Veefols took 159 Whales.

The Dutch Captures in 1697 produced 47144 Panches of the Hamburgers 10414 (Blubber) The Sveds 540 The Breemers 1710 The Embden 2376 The Englifh Captures in 1725 produced 1500 Panches of Blubber, and 20 Tuns of Whale Bone.

Now, eminating the Panches of Blubber 42 and Florin Dutch, or 1455. Englifh, the current Price in the Year 1697, the total Produce of the Years Filling amounting to 65820 Panches, yields 175262 10 6 Sterl.

As to Fins, or Whale Bones, letting them at 4000 Weight for Whale; and hundred Weight at 4 diet; they will yield 17535 Tuns.

Whereof, the Share belonging to the Dutch was 325873.

On the same Footing might the Produce of the Fishery of the present Year be easily flated. It will come far short of that of 1697; which indeed vants the whole that ever was known: Each Veefol, taking one with another, that Year to Whales 257; And the present Year only to Whale 3; tho' the Englifh, more happy than the rest, caught above two a piece. But it may be added, that the Whales of the present Year being larger and fatter than those of 1697, produced, in addition to that instance, 40 Panches of Blubber; and these other only 33 Panches.

Herring Fishery.

The Herring is a small Salt-water Fith, with a blueflint Body, and a white flift, which is unlike the little Shad Fith; which it is called in Latin Arctius Minus. Rondeletius calls it Haruscorius. It is a popular Error to believe the Herring to be the Albus of the Romans. The Herring is no particular Fith, but a kind of Sausce, made of any sort of Salt Fish: The modern Herring
Herring seems to have been unknown to the Ancients: it is neither the Hake, nor Hales, nor Morays, nor Locomus, nor the Geres of Pliny. See Rambler de Fish. Many species are common in the North. The Fish are chiefly found in the North Sea. 'Tis true, there are Fisheries elsewhere, but none to copious.

They usually make two Fishing Seasons, the first in August, and the second in Autumn. The latter of which is the more considerable, on account of the Fish, which are very favourable to this kind of Fishing.

To commonly said, that no body ever saw a Herring alive, except the one that was caught just taken out of Water: But there are Intervals to the Contrary.

The Herring is a Fish of Paffage; so that it is allowed to fish for them on Holydays, and Sundays: In the Decretal there is an express Chapter to this Effect. They go chiefly in the sea of Dronne, and are fond of following Fire, or Light; and in their Paffage resemble a kind of Lightening themselves.

The Dutch were the first who began the Herring Fi- shery in the North Sea. Their regular Season is from April 1 to 20.

Their first regular Fishing is fix'd to the Year 1655. The Method of Salting and Barrelling them, was not dis- covered, till the Year 1676. Willingby, in his History of Fishes, observes, that W. Dyer, a Native of Berriot, rendered his Name immortal, by the Discovery of the Secret of Curing and Pickling Herring; He adds, that the Emperor Charles V. coming to it in the Low Countries, made a Journey to the Masters of this Art, on purpose to view the Tomb of this first Barreller of Herring.

The Dutch begin their Herring Fishing on the 14th of January, to employ less than 1000 Vessells therein. These Vessells are of 60 to 100 Tuns capacity, Dressed pickled Fishery, carrying from 45 to 60 Tuns, and two or three small Cannon. See Boat.

When they are allowed to fish out of Port without a Convoy; unless there be enough of them together, to make 48, or 20 Pieces of Cannon: In which case they are allowed to go in Company, or Company. Before they set out, they make one general Preparation; which has the same Force, as if it were in Writing.

Thee Regulations of the Admiralty of Holland are partly followed by the English, and other Nations; and partly impressed into new ones: It seems to me, that No Fish shall carry his Net within a Leeward Cafe, unless it be in the Cafe Boots: That while the Nets are cast, a Light shall be kept on the hind Part of the Vessell: That when a Boat is by any Chance cast upon them, they shall cast off the Light shall be cast into the Sea: That when the greater Part of a Fleet leaves off Fishing, and casts Anchor, the reef shall do the same. Etc.

The Variety of Fishings has nothing particular in it. The Nets wherein the Fish is drawn, should, regularly, have their Marshes an Inch square, that none of the lefter Fry may be taken. See Nets.

There are in Holland, both pickled, and red, is very considerable; but there are so many different Sorts prepared; in such different ways, and different Places, that it is hard to say anything precise thereupon.

They are all agreable, and are the greatest Rup- tores: They are distinguish'd into four Kinds, according to their Sizes. The Goodness of this Commodity consists in its being fat, white, firm, white; fished the same Day it is taken, and with good Salt, and well Barrell'd.

The Irish Herring are the next in Value after those of Holland; and principally those of Germant and Dublin, which are scarce inferior to the best Herring of Rotterdam, or Bred- a-ger. The Northumberland Herring is near as well prepared, guted, salted, nor barrell'd as the Dutch; and yet its Taste is excellent: Nor is it doubted, but that the Scotch were as careful in their Fishes, as their Neighbours, their Herring is a very fine整治. The Grand Herring of the Thames has its Merits; but it is not com- mended as good in England, as it is in the Dutch: The fifth Herring of England is incomparable; the fifth being too dry and freth for the Market.

Method of Curing, and Preparing Pickled, and Red Herring.

For Pickled Herring: As soon as the Herring are taken out of the Sea, one of the Officers of the Custom, cuts them open, and takes out the Guts, and every thing but the Milk, and the Eggs which are always to be left in the Body of the Fish. 'Then, washing them in fresh Water, and drying them between two Cloths, they lay them in a Tub full of strong Brine made of fresh Water, and Sea Salt.

When they are taken out, they drain them; and when well dry, they put them in a Cask, preparing care to dis- pose and range them evenly, in Rows, or Layers; and pref- fer them well down; and drawing a Layer of Salt both at Top, and Bottom.

When the Barrel is full, they flop it up very close; that no Air may get in, nor any Brine out; either of which is very prejudicial to the Fish.

For Red Herring: The Fish being caught, they proceed to wash, gut, and lay them in Brine, as for pickled Herring; only they let them lie double the Time in Brine, and then put them in the Salt, as for the Pickled: this is done all in their Salt here, whereas the other Kind takes half its Salt in the Barrel.

When the Herring is taken out of the Brine, they turn the Fish in a Narrow, and then turn them Head on little wick Baskets, and then hang them in a kind of Chimneys, made for the Purpose; and when the Chimney is as full as it will hold, which lees than ten or twelve thousand fathom effects, they turn it to the other hand, and hang it in a kind of Bough Wood, which yields a deal of SMOKE, but no Flame.

Here the Herring remains, till sufficiently smoked, and dried; which ordinarily is in 24 Hours. Then they are taken out, and are preserved in a very good State.

Their Goodness consists in their being large, firm, and dry; their Outside of a yellow, golden Colour; their Eggs, or Milt within, and well fainted and barrell'd.

Salmon Fishery:

The Salmon, according to fonce, breeds in the Sea, but the Opinion of others seems better warranted, that he breeds in the clear farty Parts of Rivers, not far from the Mouths thereof. They commonly spawn in October, and the young becomes a Saniet the following Year, and in a few Months a large Salmon. The Miller and Sparrow having performed their Office, bathe themselves to the Sea; and if their Return be prevented by Wears, or the like, they become sick, lean, pine away, and die in two Years. If they find their Water, they are illuminated. The Fat Salmon, called Skipper, which will never arrive at the natural Bulk; it being the Sea that makes them grow big, and the River, fat. The Female is distinguished from the Male, by its Tail, which is longer and more slender. Her Body is not so bright, and its Body speckled over with dark-brown Spots; its Belly flatter, and its Eft, not so red; more dry, and less fared to Touch. The Salmon will not go to Tafle. In Spawning Time, when they repair from the sea to Rivers, Carce any thing can stop their Progress. We have seen them leap up Ca- taracts and Precipices, many Yards high.

The chief Salmon Fisheries in Europe, are along the Coasts of England, Ireland, and Scotland. The Fishing usually begins about the first of January, and ends by the last of September. It is performed with Nets, in the Places where the Rivers empty themselves into the Sea long the Sea, that the Season of the Year, &c. The Fish are seen to croud thither frequently in Shoals from all Parts, in search of the fresh Water: They also fish for them higher up in the Rivers; sometimes with Nets; and sometimes with kind of Dikes, or Wears made for the Porpoise, with iron Grates therein, so disposed, as that the Fish, in going up the River, open them with their Head; but are no longer able to come back. This is called the Fishing of the French sort, closed as in a Refever, where it is easy taking them. In some Places they fish for Salmon in the Night time, by the Light of Torches, or kindled Straw. The Fishermen in the North of America, draw the Straw towards the Light, whereas he is naturally a great Lover, and Strike him with a Fort, or Lifter. In some Parts of Scotland, it is laid, they ride a fishing up the Rivers, and when they try them in the shallow Parts, foult them with Fifkins.

When the Fish is taken, they open them, and take out the Guts and Gills, and latt them, in large Tubs for the Pur- pose: Of out which they are not taken before October, to be sold up in Pickles from three to four hundred and fifty Pound Weight.

Salmon is also fished in Rivers, after the manner of Trout, with a Line, and Hook. He bids bet all the Af- ternoon, about Two, in May, July, and August, when the Water being clear, and a little Breeze of Wind wind- rig; especially if the Wind and Stream set contrary ways. The Salmon is catch'd like a Trout, with Worm, Fly, and Midle, a piece of strong Brown Worm, if well draw'd, and kept twenty Days in Mois. The Salmon never stays long in a Place, but is continually shifting; to be as near the Spring Head as possible, and Swimming generally down the Stream against the Ground. Put two, or three Garden Worms well draw'd on your Hook at once, as if you were bailing for Trout; and be sure to give him sometimes to gorge him, before you draw him in with your Wire-ring upon the Top of the Rod, through which the Line may be let run to any Length at Pleasure, by a Reel near at hand.

Mackerel Fishery;

The Mackerel is a Salt-water Fish, without Scales. Its Body is round, and fleshy; terminating almost in a Point, at each Extreme. Some
Some Persons, well skilled in the Naval Architecture, hold its Figure the most commodious for Swimming of all other, and therefore supposed to be the Model for the Building of Ships.

"Its ordinarily about a Foot long: When in the Water, it appears yellow, and when out of it, of a Silver White, except for Sreaks, or Speckles of a deep Blue, on the upper Sides, and in the Head being cut off, the Belly open'd, and the Gills out; the Salter ranges them in the Bottom of the Veellschaft, Head to Tail; and having thus made a Layer thereof, a Fathom deep, they cover another, which he covers as before; and thus he dipoles all the Fif of that Day, taking care never to mix the Fif of different Days together.

By that time the Cod has lain that to drain three or four Days, they are moved into another Part of the Veellschaft, and fished afresh. After this, they are no more to be caught, till the next Spring or Barthun.

Sometimes they put them up in Barrels, for the Convenience of Carriage.

Dry Cod.

In the Fising of Dry Cod, Veellschafts of all Sizes are used; though such are generally cho'ce, as have large Holes, by reason this fort of Fif incumbers more than it burtheneth. As Cod is only to be dried by the Sun, the European Veellschafts are obeg to put out in March, or April, to have the Benefit of the Summer for Drying. Indeed, we send Veellschafts for Cod in Fine, and Farty; but those only buy with great Loss and prejudice. The Inhabitants of the English Colonies New-found Land, and the neighbouring Parts, in exchange for which, they carry their Meales, Erancides, Biscuits, Fable, Mottons, Linne, &c. Cod is also the South Cod is along the Coast of Phocentza, from Cape Ro-fe, to the Bay de Implicita, in which Compa there are divers commodious Parts for the Fif to be dried in.

The Fif or Fishes required for this Ufe, of the fame Kind with the Green Cod, is yet much familiar; whence it is the fitter to keep, as the Salt takes more hold.

The Method of Fishing is very different in both; only they both employ more expensive, as it takes up more Time, and employs more Hands; and yet scarce half so much Salt is spent in this, as the other.

When Annual Fishing Veellschafts meet, and intend to fish in the fairest Port; he whole Cladoues firt touches Ground, becomes entitled to the Quality and Privileges of Admiral, has the Choice of his Station, and the Resul of all the Fif or the Coalt at his Arrival.

As salt as the Captain arrives, they unrig all their Velettes, leaving nothing but the Shrouds, to fulfill the Masts; and in the mean time the Mates provide a Tent on Shore, covered with Branchis of Fir, and Sails over them, with a Sailcloth, fifty, or fifty Foot long, and one third as much broad. While the Scofield is making ready, the Crew are a-fishing; and as fast as they catch, they bring them to the Ship, where they are put on Two Benches: But the main Salting is performd on the Scofield.

When the Fish has taken Salt, they wash them, and drain them again, then lay them in Piles on the Gallipings, where they range them on Hardens, a Fifth thick, Head against Tail, with the Back uppermost; oblering, while they lie thus, to tan, and shift them four times every 24 Hours.

Then they begin to dry, they lay them in Heaps, of ten or twelve niece, to retain their Warmth, and continue to enlarge the Heap every Day, till it becomes double its first Bulk. At Fishing is much the different; Heads into which they turn every Day, as before. Lastly, they salt them over again; beginning with those that had been fished first; and thus lay them in huge Piles, as big as Hay-Straight.

And thus the rest. Till they are carried a Ship-board, where they are laid on Branches of Trees, disposed for that purpose in the Bottom of the Veellschaft, with Mats all around, to take the Moisture from the Ships Hull.

There are four kinds of Commodities drawn from Cod, viz. the Tripe, and Tongues, which are fatted at the same time with the Fif, and barreled up; The Roe, or Eggs, are fatted in Barrels of Brine; and the Fins, to call them the Sea, to draw Fif together, and particularly Richards: And lastly, the Oil, which is used in the dressing of Leather.

The Scofield catch a small Kind of Cod on the Coast of America, which is a very precious Thing. They fell it, and dry it in the Sun, upon Rocks, and sometimes in the Calmire: But the greatest Part of it is sent at home.

Sturgeon Fishery.

The Sturgeon is a large Sea Fish, which at its Season runs up the Rivers, in a large, sharp-pointed Snout, flat Belly,
Fishing again, is delightful, with regard to its Object, into that perform’d in Salt Water; and that in Fresh. For Herring, Cod, Sole, Whiting, Haddock, Prawns, Perch, Mackerel, and other Sea Fish. See FISHERY.

The latter pratticed for Pike, Trout, Carp, Tench, Perch, Dace, Eel, &c.,

and the Hook, for fishing with the Hook, are the Red, Line, Hook, and Fly. See FISHING RED, FISHING HOEK, FISHING FLY, &c.

The Points on which the Art of Fishing chiefly turns, are the Line, Bait, and Plugging, or Placing of the Bait on the Hook. What relates to each of these, we shall here entertain the Reader withal, in the several kinds of Fishing, chiefly practised among us.

Pike Fishing. The Pike is reputed the Tyrant of the fresh Waters; By the common Conjecture of Naturalists, he is the largest lived of all Fishes. The larger he is found, the more food he eats. The Fishermen of Holland and Frisian put the Letter Z several times repeated. These long of Fishery are open on the Side towards the Sea; and close on the other; by which means the Fish, ascending in its Season, finds a place in which it can feel in these narrow, angular Retreats, and not being able to turn itself, go to fetch again, by reason of its Bay, is easily harvist, and killed with a fort of harping Iron.

The chief Object of this Fishery is the Roe; which is a Commodity as much used in Mead, as Butter in Holland; and there are Sturgeons, that furnish 400 Pounds thereof. To't is only the elder and younger Sturgeon, that they pickle for Eating.

PILCHARD FISHERY.

The Pilchard is a small Salt-water Fish, bigger than the Anchovy; but less than the Herring, which in other respects it resembles. Its Head is yellow; Belly, white; and Head, a Sea-green. It eats admirably, fresh, or lightly salted, and morselled.

There are Seacons for fishing the Pilchard, which, like the Herring and Anchovy, is a Fiish of Foppage. They are properly called Foppage Fishery, because the Angler is for a time with this Difference, that the Head is cut off the latter; But the Pilchard were disdained from the Anchovy, even tho' its Head was off likewise; the Pilchard having a very flat Back, and a great Feathers going down on the Sides.

That on the Coasts of Dal-matia, to the South of the Island Ifrea: On the Coasts of Bretagne, from Bell Island, as far as Bret; and along the Coasts of Cornwall and Devonshire.

That on the Coasts of Franche is so plentiful, that it not only furnishes all Greece; but a great Part of Italy. That on the Coasts of Bretagne employs yearly above three hundred Men.

The Fish caught on our Coasts, tho' bigger, are not so much valued, as those on the Coasts of France; owing principally to their not being so thoroughly cured. The Scena is from Jesus is the Bait, or thing that makes Men to sail.

On our Coasts, there are Pertons polled a Shore, who spying by the Colour of the Water where the Shores are, make Signs to the Boats, to get among them, to cat their Nets.

When taken, the Fifth are brought to a Ware-house on Shore, where they are laid up in broad Filles, supported by Backs or Sides. As soon as they are brought, they feel them with Bay Salt; in which, laying laking twenty or thirty Days, they run out a deal of Blood, with dirty Pickle, and Bitter; which last draws a deal of the Oil from the Fifth, to the great Los of the Owners. When taken out of the Fille, there remains a deal of Salt, Blood, Scales, &c., at Bottom, which, with fresh Salt, serves for another Fille.

They now put them to Water in Salt; and mark off, in barrels, or dry, put them in Bin, Petrae, and press them hard down, to squeeze out the Oil, which issues away at a Hole in the Bottom of the Cask: And in this State, they are fit for Sale, or Ule.

PINE TREE, see PINE FISH.

FISHING, the Art, or Craft of catching Fish. See FISH. Fishing is delightful, with regard to its Instrumet, into that perform’d with the Fiish, for Fifth, that go in Shoals; and that with the Hook, for solitary Fifth: Which latter is properly called Angling. See NEX, and ANGLING.

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A small Leech may ferre the 'Turn'; or for want of either, an artificial one may be made of Cloth, by the Life, which is found on that kind of a Bead with a大学 as long as three Beads.

For Fishing with Flies, either Natural, or Artificial, see Fishing Fly.

Carp Fishing. The Carp is generally held the Queen of Fresh-water Fifth. It is exceeding fablic, and of all others, the Eel only excepted, lives longest out of Water. Mr. Ray affirms us, that in Holland they have a speedy way of fat- tening them, by keeping them with a Cord, to which they are feeding them with White-Bread and Milk. They breed several times in one year; for which reason we seldom meet with either Male or Female, without either Milt or Spawn. They are very fat, and very sweet, and very fine, but, unhappily, if ever, breed. To make them fat and large, 'tis a good way, when the Pond is low, in April, to rake all the Sides thereof with an Iron Rake, and low Hay Seed therein. By this means they will be ready to be overfished, as the Pond rises, will be a fine Feeding Place for them.

A World of Patience is required to angle for Carp, on account of their being very quick, and especially the Same to rule in the deepest Places. They seldom bite in cold Weather; and in hot, a Man cannot be too early, or too late for them. When they do bite, there is no fear of the Hold. The Baits are, the Red Worm, in March; the Candle, in June; and the Grasshopper in July, August, and September. Proper Paties may also be prepared for him; as Honey and Sugar wrought together, and thrown in Pieces into the Water. They are fat to the last of May, you begin to angle. Honey and White Crums of Bread mix'd together do also make a good Pait.

Trout Fishing. The Trout is a fine Fresh-water Fifth, having very small Scales, but large, smooth Flies, with a red Circle about the Eyes, and a little Barb hanging at each Corner of the Mouth. It takes more Delight among Weeds in particular; and the best Places for them, are in shallow, or deep Water. His Slime is said to have a feeling Quality for wounded Fifth; upon which Account he is commonly called the Fifes Phisician. When the Carp, Pike, &c., are sick, he runs to them, and mixeth himselfs against the Trench. The Season for catching this Fifth, is in June, July, and August, very early, and late, or even All Night, in the full Part of Rivers. His Bait is a large Red Worm, at which he bites very eagerly. If a Fish be tied in Tarts. He also Seig- nies in all sort of Paties, made up of strong Cined Oil, or with Tar: Or aattle of brown Bread, and Honey. Nor does he scorn the Crumb of Carb, Robin, Flag-crumb, Worm-grain, Green Gentle, Carr-bait, or soft boil'd Bread, Grain.

Perch or Pêche Fishing. The Perch or Pêche is known by his large Head, his long snout, his eye big, and his Teeth; and will venture on his own Kind; even with greater Courage than the Pike. He seldom grows above two Foot long: He feeds from February, or March; and bites best when the spring is far spent.

The proper Baits are, the Branding, Minnow, and small Pêe for, as also the Cob-Worm, Bob Oak-Worm, Gentle, With a Pip, a little Salt, and a Crumb of Carb, which is to be alive, and stuck on the Hook through the upper Lip, or Bach Fin, and kept swimming about Mid-Wa- ter. If the Frog be used, he is to be fished to the Hook by the Skin of his Leg. When the Fifth bites, as he is a good deal of the Leather-mouthed kind, he must have Time to Nouch his Bait. The best Place to fish for him, is in the turning of the Water Edge, in a good Gravel Bottom.

Roach Fishing. The Roach, or Racker is no delicate, but a very finely Fifth. Tho' in Rivers are more valued, than those in Ponds; tho' the latter are much the larger. They pursue the Fly, as a Bait, more than most others do.

So to angle for this Fifth, in April, Cads or Worms are proper Baits, so are small white Snails or Flies in Summer. The Bait is always to be under Water; for the Fifth will not bite, if not so. If the Fish be in that State, and with good Success. In Autumn a Pattle must be used, made of the Crum of White Bread, moulded with a little Water, labour'd with the Hands into a tough Pât, and coloured, or very nearly, with a Spirit of Orange. If the Fifth bite, so, Spiced Malt; the young Brood of Wafas, and Bees, dip it in Blood; and the thick Blood of Sheep, half dried, are Nor- thams in this sort of Fishing.

Dace, and Dace Fishing. The Dace, and Dace, bearing a near Resembance to each other, in Kind, Size, Goodness, Feeding, Cunning, &c, we join them together. They, like the Eel, are Bait; but a fine Fly, or May Fly, or May Fly, the latter End of April, and most Part of May; and the Am Fly in June, July, August, &c. They rarely refuse a Fly at the Water's edge, in a warm Day; but when you fish under Water for them, 'tis best to be within a hand- ful of the Ground. To catch Dace in Winter, the Bait is a whole Pât of Milt; or by means of a Trench, like those in Heaths or Sandy Grounds.—The Nostrums for Roaches are also commended for Dace.

Gudgeon Fishing. The Gudgeon is a small Fifth, of a very delicious Taff. It spawns three or four times in the Sam- mer Season, and feeds in Streams, and on Gravel; lighting on kind of Flies; but is easily taken with a small red Worm, fifth near the Great Point, and being a leaper, a breadth of Fifth, will not easily be off the Hook, when struck. The Gudgeon may either be fish'd for with a Flot, the Hook being on the Great Point, by Hand, with a running Line, with a line of Worms, without Go, or with a Spleen. Without Worm, to use Wafas, Gentles, and Cad Baits; and one may even fish him with two or three Hooks at the same time; which makes good Sport. When a Flot is not at hand, the Gudgeon, the top or the Wind or the Ground, or the long Pole, which will make them gather to the Place, and bite the Father.

Flounder Fishing. The Flounder is a flat Sea or River Fifth; caught in April, May, June, and July, in any time of the Day; in a swift Stream, and sometimes also in the full Deep. The best Bait is red Worms, Wafts, and Gentles—

Eel Fishing. The Eel is a Fresh-water Fifth, much in Shape of a Serpent: Naturalists have long divided, as to the Manner how it is produced; whether by Generation, as it is said in some, or by Devolution, as it is said in others; or by certain gills in the Dendrops, which, falling in May and June on the Banks of some Ponds and Rivers, are by the Heat of the Sun turn'd into Eels. This is certain, that there is not the least Appearance of an Eel, or a Kite, or a Snake, in any Western River. Of the Origin of Animals, describes a Method of producing them by Art. He says, that if you cut up two Turfs, cover'd with May Dew, and lay by one on the other, the grassy left in them, and thus expose the Heat of the Sun, on the Banks of a Water: In a few Hours time there will spring from them an infinite Quantity of Eels. The Kinds of Eels are various: Some reduce them to five; the Siren, the Grey Eel, a Black Eel, with a broad flat Head; and an Eel with reddish Tail. The first is allowed to generate: It is vivacious, and the young, when it comes from the Female, is no bigger than a small Needle.

The Silver Eel may be caught with divers Baits; particularly powder'd Beef, Garden Worms, or Lobes, Minnows, Hens Gut, Fifth Ganges, &c. But as they hide themselves in Winter in the Mud, without stirring out for six Months, and in the Summer take no Delight in being abroad in the Day, the most proper Time to take them, is in the Night; by following a Line to the Hook, which shall be fasten'd to a great Line, may be thrown at large with good Store of Hooks baited, and plumbed, with a Flot, to dis- cover where the Line lies, in the Morning. The Roach does much the same Business, by backing a Flot with a fine Line, and baiting with a great Line.

Another usual way of catching Eels, call'd Swallowing, is perform'd in the Day time, by taking a strong Line, or Hook baited with a Lob, or Garden Worm, and returning it to the Shore, and casting it, in the Course of a River, down Mills, Wears, or Flood Gates; where, the Bait being gently put into the Hole, by help of a cleft Stick, the Eel will certainly bite. Bubbling for Eels is another Method: In or- der to this, four some large Loaf, and with a Needle run a twisted Silk through them, from End to End, taking so many as may be wrap'd a dozen times round a Board. Tie them fast with the two Ends of the Silk, that they hang down, and by means of a strong Pole, fasten'd to a strong Cord, and about an Handful and an half above the Worms fix a Plummet, three Quarters of a Pound Weight; and make the Cord fast to a strong Pole. Fishing with these in the Mid- dle of the Night, is the best at the Bait. When you think they have swallowed it, gently draw up the Line, and bring them all as soon as may be. Others use an Eel Spear, with three or four Focks, or jagged Teeth, which they strike at random into the Mud.

Club Fishing. The Crucian or Club is a Fresh-water Fifth, with a large Head. It spawns in the beginning of May, and after it is struck; and the larger he is, the quieter. His Bait is any kind of Worm, or Fly, particularly the large Yellow-wool, also Grain, Cheese, the Fifth in the Bone of a Lamb, or a Crumb of Carrot, or some Remains of them at the same Hook. Early in the Morning angle for him with Snails; but in the Heat of the Day chafe some other Baits; and in the Afternoon fifth for him at Ground, or Fly.
FISHING Fig. 43

Fishing Fig. 43, a Bait used in Angling for divers kinds of Fish. See Fish, and Fishing.

The Fig is either Natural, or Artificial.

Natural Figs are innumerable: The most usual on this coast is the Carp Fig, or the Red-Fig, or the Grey-Fig, or the Red-Fig, or the Moor-Fig, or the Tufted-Fig, or the Vinet-Fig, or the Shelly-Fig, or the Caudal and Blackish-Fig, or the Flag-Fig, or the Albino, or the Caudal and Shelly-Fig. All which appear to be good, and to be as proper to the several kinds of Fish as the Spring. To know the particular Figs the most in use, when you come in the Morning to the River-side, boat the Bubbles with your Rod, and take up what Varies most; and you will quickly know which are in greatest Effect: But that not all will sometimes change their Fig, but is only when they have glented themselves therewith.

The Figs are always used with Natural Fish, either on the Surface of the Water, or a little underneath it.

In angling for Chevin, Roach, or Dace, move not your Natural Fish swiftly, but let the Fig make it; but rather work with your Line towards him with the Stream: But if he be in a still and flow water, draw the Fig slowly sideways by him, which will make him eagerly pursue.

For the Artificial Figs, is seldom used but in blustering Weather, when the Waters are too troubled by the Winds, that the Natural Figs cannot be seen, nor roll upon them.

Of this Artificial Figs, there are reckoned no less than twenty, and these in their proper Manors.

1. The Dun-Fig, in March, made of Dan Wool, and the Feathers of a Partridge Wing. 2. A Dun-Fig, made of Black Wool, and the Feathers of a black Drake; the Body made of the Feathers of the Inner Side of the Tail. 3. The Stone-Fig, in April, the Body made of black Wool, dy'd yellow under the Wings, and Tail. 4. The Ruddy Fig, in the Beginning of May; the Body made of red Wool, and the Feathers of black Silk, with the Feathers of a black Capon, which hang dangling by his Sides, next his Tail. 5. The Yellow, or Greenish Figs, in June; the Body made of black Wool, with a yellow Lift on either Side, and the Wings taking the Feathers of the wings of a Buzzard, bound with black broken Hemp. 6. The Moorish Figs; the Body made of duffick Wool, and the Wings with the black Mail of a Drake. 7. The Wolf-Fig, in July, the Body made of black Wool, car'd about with yellow Silk, and the Wings of a grey Drake. 8. The Druke-Fig, in August; the Body made of greenish Wool, car'd about with the Feathers of a Peacocks-tail, and the Wings made of black wool. 9. The Drake-Fig, in August; the Body made of black Wool, car'd about with black Silk, his Wings of the Mail of a black Drake, with a black Head.

The best Rules for Artificial Figs-Fishing, are these:—1. Take the Fig in Rain, or in a cloudy Day; for instance, when the Waters are moved by a gentle Breeze: The South-wind is best; and if the Wind blow high, yet not so, but that you may conveniently guide your Throat, and, if the Sun shine, the Light is plain Deeps, but if the Wind be small, the best Angling is in fast Streams.

20. Keep as far from the Water-side as may be; fifth down the Stream, with the Sun at your Back, and touch not the Water with your Line.

21. Ever angle in clear Rivers, with a small Fly, and slender Wings; but in muddy Places use larger.

22. When after Rain the Water becomes brownish, use an Angel Fly in a clear Day, a light colour'd Fly; a dark Fly for dark Waters, &c.

23. Let the Line be twice as long, as the Rod, unless the River be incumber'd with Wood.

24. For every foot of Feather, use two of the same Feather; and, for the Compositions of Seawater and Weathers.

25. Always be on the Look out, and in the main to discover the Rising of the Fish; for easy the Fish be, the sooner it will spew out the Hook.

26. Let the Fly fall swiftly into the Water, and not the Line, which will scare the Fish; for the Art of the Fish is, to carry the Fly, or the Line, or the Fig, or the Fly, as I have called it, to the fish by a slender and thin Feeder, without troubling the Fig.

27. In slow Rivers, or still Places, call the Fly cross over the River, and let it strike a little in the Water, and draw it gently back with the Current.

28. Let every Fly answer with their Wings standing, one behind the other, whether two, or four. That Fig delights in the gayest Colours that can be, chiefly in the Wings, which must be long, as well as the Tail.

29. If the Fish be hard to deal with their Wings standing, one behind the other, whether two, or four. That Fig delights in the gayest Colours that can be, chiefly in the Wings, which must be long, as well as the Tail.

30. To keep the Hook and Bait furnished at the proper Depth, to discover when the Fish has hold of them, &c.

Of there are divers Kinds; some made of Fourthy Duck-quills, which are the best for slow Waters; but for strong Streams, found Cork, without Flaws or Holes, bored thro' with an hot Iron, into which is put a Quill of a fit Proportion, is preferable: Pare the Cork to a pyramidal Form, and grind it smooth.

The Fishing Hook, in general, ought to be long in the Shank, somewhat thick in the Circumference, the Point ought to be sharp, which may be in the best Handmade of Iron. For letting the Hook on, use strong, but small Silk, laying the Hair on the Inside of your Hook; for if it be on the Outside, the Silk will fret and cut it thence.

There are various sorts of Artificial Figs.-Fishing Books, some big, some little, and of them some have peculiar Names; as

1. Single Hooks. 2. Double Hooks, which have two Bendings, one contrary to the other. 3. Snapders, or Gorgers, with that Hooks to whip the Artificial Figs upon, or to bait with the Natural Figs. 4. Springers, or Spring Hooks, a kind of double Hooks, with a Spring, which flies open, being thrung into any Fish, and keeps it Mouth open.

As there are various sorts of Figs for various Sorts of Fish, there are a sort of Figs for long, slender Rod, or Wand, to which the Line is fasten'd, for Angling.

Of these there are several Sorts; as

1. A Triller, or Trolling Rod, which has a Ring at the End of the Rod, for the Line to go through, when it runs out, a Reel. 2. A Whippers, or Whipping Rod, a Top Rod, that is weak in the Middle, and top-heavy, but all slender and fine. 3. A Duffer, which is a strong Rod, and very fine, the Body made of black Wool, the Head is a little Poterfull, a Pear for a Stick. 5. A Bottom Rod, being the same as the Duffer, but somewhat more pliable. 6. A Snagging, or Pronging Stick, a forked Stick, having four Prongs; in a single Fork. 7. This is only for Eels in their Holes. See Angeling, &c.

Fishing Vessels, or those used in the several Fisheries at Sea, or on the Coasts, are the


FISSEUR. FISSEUR, in Chirurgery; Cloth or Crack in a Bone; Or a long Necked or Shrunken Structure of a Bone: Or, a Solution of the Continuity of a Bone, whereby it is only cleft, or crack'd. See Fracture.

Fisseyre are of two Kinds: The one apparent, by the Greeks called ἱππορος, or ὡδρος; and by the Latins, Sciscia: The other so small, as not to be visible, called magnis, or maximis: Capillaries: as remembering a Thread.

The Causes of Fisseyre are Falls, Leaps, and Contusions of the Bones. See Bones. See Scissors. See Scissors.

Fisseyre, especially in the Cranium, either happen on the Part the Stroke was given on; or the Opposite Part: That on the Opposite Part is called Down-Fisseyre, or Counter- Fisseyre. See Cranium. See Scissors.

Old Men are more subject to Fisseyre, than young ones; by reason their Bones are drier.

Fisseyre are difficult to find; but the easiest cured of all Feathers: They, if they be not known, or neglected, they bring on Ulcers, and Caries; and in such Case become dangerous; so that there is frequently a necessity of having a Rector to an Apothecary, or Member of the Faculty.

Fisseyre, or lime in the Cranium, are bilious Vo- mitings; Vertigo; Flux of Blood at the Mouth, or Nose; Dumbells; Delirium, &c. If there be any Fisseyre in the Scalp, the Patient will feel a Pain in the Fisseyre, or in his Pith, while the Chirurgery pulls it strongly.

In such Cases tis frequently necessary to perforate the Cranium with a Spear. See Spear. See Blood. See Blood. See Spear.

FISSILIS, in the ancient Medick, An Infrumetion, of the Wind kind, resembling our Flute, or Flag-color. See Flute.

The principal Wind Infrumetions of the Antennae, are the Flip, and Fisssilla: The first, or the Flowers that were generated in the Fisssilla, or others a Combination of several; Witness the Syring of Pans, See Tisalia.

Fisssilla, in Medicine, A Keel, winding, callous, cavernous and unctuous; but more of the former, than the latter, opening thence into a spacious Bottom; and generally yielding a sharp, vivrant Matter.

Fissilis differs from winding Ulcers in this, that the former are callous, and the latter not. See Ulcer.
They attack all Parts of the Body, without Exception; particularly the Anus, Fissura ani lachrymalis, Thora, &c. The greater part of those in Falbl, or Flatus, which either being invertebrate, or having been ill used, comes to be callosis; the Orifice being at first lined or incrusted therewith, and at length the whole Sinus.

Other places, where this Disease is found, are the Gallbladder, and healing, and confluating the Uterus with cleaning Medicines, and Sarcorocci.

The Ancients gave the Name Fistula to this forte of Ulcers, which had been inhabited by a fluid, or its Depth, to Blister, or Pippis, called by the Latinus Fistula.

Fistula in Anus, is a fistula form’d in the Anus, or Fundament, Se Anus.

The Cæcum, however, reekon four Kinds, viz. the Cæcum Intestinalum, which is open upwards, but not into the Rectum; the Cæcum Externum, which has an Aperture into the Rectum, but none downwards: The Complect, which opens both into the Anus, and into the Rectum; and the Constomium, or that with several Sinus’s, which discharge themselves into one common Cavity, that is the Fundus, as it were, Reservoir of all.

Others, Wipfman, reduces Fistula in Anus to two Classes. The first are those, arising from a Phisma: These are very painful, and difficult to cure; as entering deep among the Intermid of the Muscles, and forming various Cavities, or Sinus’s, which, the more remote they are from the Anus, the worse they be, by reason they do not allow of being cut: The second, owe their Origin to an internal Humorrhage, or Extravasation between the Coats of the Rectum, and the Uterus, which is feend to the Circumference of the Anus, whence they yield a thin Danes, or Ichor, without Pain: They in time being on Itchings and Excursions; and the Orifices at length become callosis, and thus form Fistula, at least near the Circumference.

Fistulae, if they do no Harm by the Conspicuity of the Flux, the Stench, or the like Accidens, are a Benefit to Nature, as carrying off cahsee Humours; and ought not to be cut, but drained: The troth, simple Fistula may be cured without Danger.

The great way is by cutting; where that may be done without Damage to the Musle of the Anus, which might occasion both the Plague, and rust: But if cutting be the only way, it is either performed with a Thread, or a cutting Instrument. See each Method under the Article CUTTING for the Fistula in Anus.

Fistula in Vagina, is a Fistula in the greater Canthus of the Eye, called also Aspera Lachrymalis.

It is a little deep callosa Ulcer, in the greater Canthale, or the Place of the Grandul lachrymalis. It usually begins with an Accele, call Angelchly, which in time produces an Ulcer, that afterwards degenerates into a Fistula. When prech’d with the Finger, it yields a thinning Matter, not unlike the Folk of an Egg; and the corrosive Humours are usually next to the Crook of the Tail: And making it if a Pallage, there ensues a perpetual Cosing.

Sometimes the Os Ethmoida it self is corroded, and render’d carpeted, in which Condition it is suppos’d to be occasion’d by an attack of the Summer or Winter Cacunc; and then, Reverius directs, all Medicines to be laid aside.

The Cure of the Fistula lachrymalis, is wholly external and shriemographical; excepting that Excavures and Materialis may be given internally; as also Decotions of the Woods. Some perscribe the Os Nat, to give room for the Mater, to be evacuated that way. A French Chirurgon, named April, has found out a new way, viz. by putting a Probe and Syringe of an inconceivable Finenesse, through the Puncta lachrymalis into the Oculum lachrymalis.

Fistulous, or Fistula, is applied by the Chirurgians to Wounds and Ulcers, which degenerate into Fistula.

Care must be taken, not to leave the Scoro too long in the Wound, lest it renders it callosis and fistulous.

Donis.

FISTULAR Flowers, among Herbalsists, are those made up of many long, hollow, small Flowers, like Pippis; all divided into large Jaggis at the end. See FLOWER.

FISTULARIS, or FISTULAR, is applied by the Chirurgians to Wounds and Ulcers, which degenerate into Fistula.

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Donis.

Thus the Leaves of Onions are said to be fistularis.

FIT, in Medicine, an Accel, or Paroxyn. See PARS.

FITS of the Mother, see HYSTERICAL AFFECTION.

FITS of only Repression and only Transjunctivum, see RESTRACTION, TRANSMISSION, LIGHT, &c.

FITCHEP or FICHER, in Heraldry, is when the lower Part of any Croys is harpened into a Point, to fit it into the Ground:

FITZ, a French Term, literally denoting Sun; sometimes given by way of Addition to the natural Sons of the Kings of England, as James First, Bay, Duke of Crafton, &c.

FIVE-leaved Graf, in Heraldry, is used by furs: instead of which, would introduce a Blazon by Herbs and Flowers, instead of those Colours and Colours, to signify Fry or Green. See FLY.

FIXATION, the Art of fixing, or rendering a thing firm, strong, impervious, &c. See FIXATION, in Chymistry, or the peculiar Preparation of Mercury, whereby it is put in a Condition to bear the Fire without evaporating; or the Hammer without flying, or being called the Mercur.

The Alchemists hold, that if they had the true Secret of fixing Mercury, without the Addition of any foreign less heavy and solid Ingredient, they could make Gold, at least Silver. See CHIMIOTEOLOGY, Silver.

Mon. Humbert says a Fbex is to make it impervious to all things that Brea, and binds together what of its own Nature is volatile; and enables it to sustain the Force of the Fire for longer Periods than it otherwise could.

Gadoy defines Fixation an Operation whereby a volatile thing, i. e. a thing that cannot endure the Fire, is rendered capable of enduring it. In the general, Fixation is the changing of a volatile Body into a fixd one. See FLY.

FIXED, or Fixd, in the general, is such, as neither the Fire, nor any Corrosive, has such Effect on, as to reduce or dissolve into their component Elements, i. e. after the Fire the Body is the same.

Clarkson holds it not sufficient to denominate a Body fixed, that it can withstand the Fire, or any one Agent; but it should withstand all. He contends, that Fixity should not be reducible to any one Element, to Exemption from Evaporation; but from Destruction, or the addition in primary Elements; in which sense, Gold, precious Stones and Glafs, and even Sulphur, and Mercury it self are, properly fixed Bodies; for Mercury, and Sulphur retain their Nature, notwithstanding all their Evaporation. See MERCURY.

FIXE, or Bzd Bodies, among Chymists, are such as bear the Violence of the Fire, without evaporating. See EPAVAPORATION.

The Chymists divide all Natural Bodies into fixed and volatile, i. e. Such as bear the utmost Force of the Fire, without dissipating, or spending themselves in Fume; and such as suffer under the Fire.

Of fixed Bodies, the principal are Gold, Silver, precious Stones particularly the Diamond, Salt, &c.

Of all Metals, Gold and Silver alone are fixed, i. e. remaining a long time exposed to the most intense Heat, they alone lose nothing of their Weight. See VOLATIL.

Whence this Properly should arise, is difficult to say. If the Fire is not contented with the Caufes enumerated under Fixity, he destroys them. But following one from Sherburn, viz. The Homogeneity and Equality of the Parts.

The Parts, viz. of Gold being all homogeneous and equal, will equally furnish each other, and leave equal forces between them, which, through the Fire finding an easy, equal Pallage, goes off, without carrying anything of the Metal with it: Or rather, the Particles of Gold being all of others the most solid, and heavy (as appears from the Weight of Gold of Metal) and all others the most strongly united, or bound together (as appears from the infinite Dility of that Metal) the Force of the Fire is not sufficient to overcome so powerful a Resistance: The union of the Parts being so strong, prevents their being raised, or set further apart; which might lessen their specific Gravity, and diminish their vis coelestis: So that what has the chief Effect in the raising of the Metal to the Weight of Silver and Gold, is the breaking of the Body being here precluded, the Metal maintains its natural Weight and Tendency to the Centre. See RAREFACTION, and EXPANSION.

The Parts of Mercury, Gold, Silver, and others, have made numerous Experiments on Gold, Silver, &c. to see how far their Fixity extended. Pure Gold, kept in an intense Heat for Two Months, but nothing sensible of...
In the Middle of the XVIth Century the Sea of the Flagellations was refollected on occasion of a great Mortality; and spread it all over the Parts of Europe.

The true cause of this phenomenon was found it necessary to put a Stop to their Excess. The Water and Preachers disputed against it; but the Flagellants remained unshaken against all they could say: So that a Number of persons of singular power and influence, such as Doctors, Chefs and Bishops, converted them into a dangerous Sect. They held, that the Blood they thus spill, was mixed with that of Jesus Christ; and that by a Flagellation of twenty four Days they gain the pardon of their Sins.

Clement VIth forbade all publick Flagellations. Geryon wrote an express Treatise against publick Flagellations. FLAGELLATION, a Term appropriated to the Suffering of the human Body, as punished by the Jews, from the Latin Flagellation, & Sorge, or Whip. Thus we say, A Painting of the Flagellation or a Flag, to denote a Painting, or Print, representing this Trespass committed against the Body of the World. In this Sense we say, the Flagellation of such a Painter, &c.

Flagellation, Whipping, is also used for a voluntary Discipline, or Penance, frequently practiced by the ancient Paganism.

The Parliament of Paris prohibited all publick Flagellations, by an Act of 1603. See FLAGELLANTS.

Flagollet, or Flagollet, is a sort of little Flute, or military Trumpet, made chiefly by the Shepards and Country People. See Flute.

It's usually made of Box, or other hard Wood; sometimes of Ivory. It has Six Holes, or Stops, beside that at Bottom, a Mouth-piece, and that behind the Neck.

Flail, see Thrashing.

Flammbeau, or Flambeau, a Luminous, made of an Affligement of several thick Wicks, cover'd over with Wax; for Fireworks, Pyrotechnics, and for Dancers at Processions, Proclamations, Illuminations, &c. See Luminaries.

Flambeau's differ from Laubs, Torches, and Tapers. See Torches.

They are made Square; sometimes of white Wax; and sometimes of yellow. They usually consist of four Wicks, or Branches, near an Inch thick, and about three Foot long; made of a cote of eampern Thread, half twitted.

Some of them are made of Plucks kind; much thicker. Tapers are, &c. by first pouring the melted wax on the Top of the several affliged Wicks, and letting it run down to the Bottom: This they repeat twice. After each Wick has been so treated, they pour it over to put it a little Dry; then roll them on a Table, and so join four of them together, by folding them with a red Hot Iron.

When it'sd, they pour on more Wax, till the Flambeau is brought to the Size required; which is usually a Pound, and half, or two Pounds.

The Last Thing is to finish their Form, or Out-side; which they do with a kind of polishing Ingriment of Wood, by rubbing it with a Linen Cloth, and then form'd by the Union of the Branches. See Wax Candle.

The Flambeaux of the Antients were different from ours. They were made of Woods, dried in Furnaces, or rather, the Wood was sometimes made of a mixture of different Woods, as was the most usual. The Vines say, (In my Time) they frequently also burnt Oke, Elm, and Hazle. In the VIIth Book of the Roman, Mention is made of a Flambeau of Pine; And Scrutiny, that the Roman Remarks, that they also made them of the Cornel Tree.

Flame, the brightest and subtlest Part of a Fire, ascending above the Flame a pyramidal or conical Figure. See Fire.

Flame seems to be the Smoak, &c. the Flames, or volatile Parts of the Fire, greatly rarified, and at last kindled, or heated red hot. By the great Rarification, the Matter becomes thinner, and the Air better penetrates it. And by the Precipitation of the incumbrant atmospheric Fluid, it is kept for some time together; the Air forming a sort of Arch, or Sphere around it, that prevents its immediate Diffusion and Dilution, and by its Contiguity and Fixation, retains and feeds the Fire of the Flame; the aqueous and earthy Parts of the Flame being naturally incapable of being ignited, are only rarified, and so impelled upwards, without fuel.

Flame is defined by Sir I. Newton, in his little Treatise De Acida, to be Fumus Candens, hot Smoak. The said Author argues, Is not Flame a Vapour, Flame, or Exhalation, and a kind of heat; and the Fire, by being hot to the Touch, must be Flux. The Philosophers do not say Flame without omitting Fire; and this Flame in the Flamme. The Ignis Flammeus is a VA- 

poor, shining without Heat; and is there not the same Difference between Vapour, and Flame, as between rotten Wood, flaming without Heat, and burning Coal of Fire? In distilling hot Spirits, if the Head of the Still be taken off, the Vapour which ascents, will take Fire at the Flame of a Candle, and run into Flame. Some Bodies, heated by Motion or Fermentation, if the Heat grow intense, flame copiously; and if the Heat be great enough, the Flame will issue, and become Flagellant Metalls in Fluxum do not flame, for they are Inflated, or immortal; Tallow, Wood, wax, soot, Coal, Pitch, Sulphur, &c. by burning, waste in Smoak, which at first is lucid, but at a little distance, from the Body, ceases to be so, and only continues hot. While Tallow, or Wood is burning, the Spirit of the Tallow, or Wood frequently flows strongly, but in the Flame it loses its Smel, and according to the Nature of the Fuel, the Flame is of yellow, white, or black Colour. That of Sulphur, c. is blue; that of Copper, red. By this the Fundamental Flammability is distinguished. See Vol. 2, page 24, of the N. O. of Dec. November, December, January. The Spirit of the Nitre being raiued into Vapour, rushes out, the like Vapour of Water out of an Apipile. Then that of the Spirit of Sulphur entering volitantly into the fixed Body of the Nitre produces the Spirit of Jupiter, and excites a greater Fermentation, whereby the Heat is increased, and the fixed Body of the Nitre raiued into Flame; by which a great Contusion is produced. The Flame of Gun Powder arises from a violent Action, whereby the mixt being quickly and vehemently heated, is rarified and converted into Flame and Vapours: Which Vapour by the Violence of the Action becoming so hot as to flame, appears in the Form of a Puff, called a Puff of Fire, or a Puff of Jupiter.

Tis a remarkable Phenomenon of the Flame of a Candle, Torch, or the like, that in the dark it appears bigger at a Distance, than near at hand. The reason is, that at a Distance the Figure we can discern, is between the Flame, and the contiguous Air illuminated by it; and less precisely where the Flame terminates: But at the Distance, c. gr. of thirty Foot, 'tis the Angle subtended by the Flame being so considerable, that we are able to distinguish the precise Bound of the Flame, takes part of the Sphere of Air illuminated by it, for the Flame.

We have several Instances of actual Flame's being produced by the Mixture of two cold Liquors. Dr. Stare gives us a Lift of the Olis which burn into Flame, upon mixing them with compound Spirit of Nitre: Such are a mixture Carbo- vaticum, fruiti, how, Pernot, &e. of which, Dr. Pepper, Hartborn, Blood, &c. Phil. Transact. N. 213.

The Vital Flame, Flamma, or Flammea Vitae, a fine, warm, kindled, but not too hot, Rap, fapp'd by many both of the Antients and Moderns, to refit in the Hearts of Animals, as necessary to Life, or rather, as that which continueth Life it self. The Predestination of this Flame, they suppose Air as necessary, as it is to the Conversion of common Flame; and hence refer the Necessity of Respiration to animal Life. See Life.

Mr. Agitat, in an Experiments in an exhausted Receiver found, that the Vital Flame of Animals, if Life may be so called, feruves, or outlives the Flame of Spirit of Wine, or of a Wax or Tallow Candle, &c. Some Animals would retain it in the Air longer than the others, and four Animals, whereas no common Flame would last there three Minutes. The Light of Glowworms he found would presently be destroyed by exhausting the Air; and retained again upon it.

The Cep or wing, by the Field, was called Flammanis, or Ga- terian. It was made of a Sheeps Skin, with the Wool on: To
The Enemy took us in Flank. The Flank of the Infantry must be covered with the Wings of the Cavalry.

FLANK of the Army and its Divisions, as of the left or right; or of the opposite Face, towards the Interm of the Work.

Such is the Line B A Tab. Fortification. Fig. 1.

Or, Flank is that Part of the Battalion, which reaches from the Point of the Flank to the Point of the opposite Face, and the Courant. See BASTIOn.

There is also an Oblique, or Second Flank, which is that Part of the Courant, where they can see to cover the Face of the Boat, and the Close. Hence the Distance between the Lines Ranzal and Fitcham.

The Line, Cover's, or Retired Flank, is the Platform of the Courtain, which lies hid in the Battue.

When the Flanks are on the Right, or the Left, and the Stake is from the Angle of the Shoulder, to the Courtain; the chief Office is for Defence of the Most, and Place.

FLANK of the Courant, or Second Flank, is that Part of the Wing, between the Flank and the Stake, where the Fitcham Line of Defence terminates.

FLANK Fitchet is that from whence a Canon playing, fires his Batteries directly in the Face of the opposite Battalion.

FLANK Rantzal is the Point, from whence the Line of Defence begins, from the Conjunction of which with the Courtain, the Shot only rakes the Face of the next Battalion, which happens when the Face cannot be discover'd but from the Flank alone.

Retired FLANK, or the Lower and Cover'd Flank, is that exterior Part thereof, which advances to secure the interior, which is aimed to, by the Shot of the Courant and Orillon; so that this Flank is only the Platform of the Courtain, which lies hid in the Battalion.

FLANK's Angle, is the Angle formed by the two Flanks of a Battalion, which of course forms the Point of the Battalion. See BASTION.

FLANK's Tenaille, said also double Tenaille. See TÉNAILE.

FLANQUE, or FLANQUÉ, is used by the French Herald, to express our 'Passy per Salutie'; that is, when the Field is divided into four Parts, after the manner of an X.

Theo, 'Columbia' uses the Term in another Sense, which to express anything natural, pure, or in the first Line of the Salt, surrounding Sections out of the Side of the Ecufton, the first from the Angles of it; the latter in first Lines, forming an Angle at the Feet, without making any Salutie.

In the other general, this is the Ad of being alighted and firing upon the Side of a Place, Body, Barricade, &c.

To flank a Place, is to disprop the Battalion, or other Work in such manner, as that these shall be no Part of the Place, but what may be defended, i.e. may be play'd on, both in Front, and Rear.

To flank a Wall with Towers. This Battalion is flank'd by the opposite Flank, and a Half-Moon. This Work is 1000 Men in 300 very strong.

Any Fortification that has no Defence but just right forwards, is faulty: And to render it complete, Part ought to be made to the Enemy. Hence a Courant is said to be flank'd at each End. See DEFENCE.

Battalions are also said to be flank'd by the Wings of the Cavalry: And a Highway is said to be flank'd by two Pavilions, or two Galleries; meaning it has a Gallery, &c. on each Side.

FLANKING Line of Defence, see RAZELINE of DEFECE.

FLASKE, FLASK, a Bearing, more properly called Flask, or Flasket. See FLASK.

FLAT, in Mutil, a kind of additional or supplementary Delineation, to represent the Defects of Musical Infruments. See SnARK.

The Natural Scale of Masking be limited to the acoustical and Sonorous Definition of the Sound: The Instrument will be found defective in several Points: As particularly, in that we can only proceed from any Note, by one particular Order of Degrees; that for this reason in the making the same, and any interposition required from any Notes, or Letter upwards and downwards; and that a Song may be contrived, as it be begun by any particular Note, or Letter, all the Intervals, or other Notes, shall be interposed, as the instrument is in the Scale of tones; yet were the Song began with any other Note, we could not proceed.

FLASK, a bearing, more properly called Flask, or Flasket. See FLASK.

FLATS, in Mutil, a kind of additional or supplementary Delineation, to represent the Defects of Musical Infruments. See SnARK.

FLASK, FLASK, a Bearing, more properly called Flask, or Flasket. See FLASK.

FLATS, in Mutil, a kind of additional or supplementary Delineation, to represent the Defects of Musical Infruments. See SnARK.
unequal parts, called Semic-tones; and the Whole may be
called the Semitonic Scale, containing twelve Sem tones
between a given tone and its Tonic, in the Oehler. See
SEMITONE, and Scale of SEMITONE.
Now, to preserve the Diatonic Series distinct, these in-
herited Notes either take the Name of the natural Note next
below, or, if that be wanting, take the Name of the natural Note next above, with the Mark to
called a Flat: Thus D or D Flat signifies a Semitone
below the Natural. And it is indifferent in the main, whether they be called by their Notes or their Names.
This Semitonic Series or Scale is very exactly represented
by the Keys of a Spinet: The foremoist Range of Keys be-
ing the natural Notes; and the Keys behind, the artificial Notes.

FLATULENT, signifying, that has a relation to FLAT-
ure's Wind or Gases. See FLATUOUS
Peace, and most kinds of Pulic, Onions, &c. are flatulent
POVIS.
FLATULATOR, or FLATULENCY, a Wind gather'd in
the Bowels, or other Cavity of the Body, by Indigestion, or a
grosg internal Peristalsis. It is distibuted by warm Aro-
methe, which is not enough to break away wherever
Vent can be found.
FLATTER, or FLATTEREN, § COINING.
FLATTENING, or FLATTENING, § LINES, a Plant, with a slender hollow Stem, usu-
ally about two foot high; whose Bark consists of Fibres, or
Threads, much like those of Hemp, being dried and
work'd in a due manner, makes that noble Commodi-
d called Linen. See LINEN.
Flax thrives well in a Soil that has long lain fallow.
To bear Flax, it must be well plowed, laid flat and even, and
the Seed sown in a warm Seasion, about the Middle of
April. The belt Seed is that which is brought from the Field; which, though dear, repays the
Charges with Abundance. One Sowing will produce two
or three Crops, before it need be renewed. Sow it up the Hill before it moves whiter and stronger,
than if left standing till the Seed is ripe; but then the
Seed is lost.
The Preparation Flax must under go, to fit it for Spinn-
ing, is Cutting, Drying, and Singeing. See HEMP.
The Seed of Flax has several considerable Properties.
It enters the Composition of several Medicines, and yields an
Oil, and a Linseed, wch. when pure, is called Linseed Oil of
Nut-Oill and which is frequently used, in defect thereof
in Painting, to burn in Lamps, &c. That drawn cold, is
repaerd good in divers Diseases. See OIL.
FLAX, in Natural History. This Genus of this familiar
Vertebr affords something very curious, still differ'd off by
Sig. DIOSCONE CINNABA.
Flies bring forth Eggs, or Nits, which they deposit on
Animal prey; for the young Flies, when they come out of
these Nits, being very round and smooth, usually slip freight down; un-
less daint'd by the Pies, or other Inequities of the
Cloaths, Hair, &c.
Flies are divided into
hat white Worms, of a tainting
Carbon, which feed on the Scabby Substance of
the Caricle, the downy Matter gather'd in the Pies of Cloaths, or
other like the Excrement.
Flies are very small, are of a tolerable Size, and are very
lively and active, and if at any time disturbed, suddenly
roll themselves into a kind of Ball.
Soon after they come to creeps, after the manner of the
glimmer, that have no Legs, with a very fit Motion.
When arrived at their Size, they hide themselves as much
as possible, and spin a filen Thread out of their Mouth,
wherewith they form themselves a small round Bag, or
Cocoon, which is called Chrysalis, as Paper, but without always dirty, and
fool'd with Dint.
Here, after a fortnight's Sleep, he barits out, transform'd
into a perfect Fly, leaving its Exuvia in the Bag. While it
resides in this State, which is a true Sleep, for a Day
or two before its Eruption, when it becomes colour'd, grows hard,
and gains Strength; so that upon its first Delivery it springs

FLAX, a Vegetable, is a Herb is white, svent all
over with dark reddish Spots.
FLEAM, is a Surgeon's Instrument to lance the Gums;
or a Farrier's Tool to let a Horse blood. See LANCE
FLEAP, or FLAP, or FLAPPER, in our ancient Laws, a
Discharge or Freedom from Ameconomies, when one, hav-
ing been outlaw'd Fugitive, comes to the Peace of our Lord
the King, on his own accord; or with Licence. Relat.
Goliah's Head was let for 4000 Mallic, or Fine, for a
Fugitive to be refector to the King's Peace. See EXEMPT.
FLEECE, the covering of Wool thorn off the Bodies of
Sheep. See Wool.
'Twas this that the Argument under the Command
of Jesus went in Pursuit of to Celestia, a Province of Asia,
now call'd Minneola. See ARGONAUTS.

FLERE, or FLERE, FROM VESPHALIS, in the
DOMINION OF FLERE.
FLEET, by the Spaniards call'd Flera, or Fyras, and the
French, Flera, a Number of Vessels, going in Company,
whether on a Design of War, or Commerce.

FLEET, or Admiral, a Body of Ships go in Fleet, for their
mutual Aid and Assistance: In times of War, beside this
Security, they likewise procure Convoy's of Men of War
either to escort them to the Places whither they are bound, or
between the Seas, especially in the Mediterranean, beyond
which they are judged out of Danger of Privateers,
&c. See CONVOY.
The Spanish Fleet, sent against England, by Philip H. con-
ceived the Expedition to the East Indies and China. See FLEET.
In the East there have been Fleets
seen of 3000 Vessels.

Merchant Fleets generally take their Denomination from the
Place they are bound to; as the Turkey-Fleet, East Indi-
Fleet.
The Spaniards call simply the Fleet, or Flera a certain
Number of Vessels, belonging partly to the King, and partly
the Merchants, sent every Year to Fera Crua, a Port of New Spain.
The Flera consists of the Captain, Admiral, and Patarch,
or Captain, which go on the King's account; and about
sixteen Ships, from four hundred to a thousand Tuns, belong-
ning to particular Persons. They are all so heavy laden both
go and coming, that they have much ado to defend
themselves when attack'd. The Fleet puts out from Cadiz
about the Month of August, and makes it eighteen or twenty
Months to East India, See FLEET.

The Fleet sent annually from the same Port to Peru, they
call the Galloons. See GALLION.
When the two Fleets put out together, they go in Com-
partition, viz. the Kings' East Indi Fleet moves to East India;
the Galloons for Carthagena, and Porto Bello, & the Flera for
Vera Crusa; At their Return they join in the Havana.
Of the two Fleets the Galloons are the most richly laden;
and the cargo of the Flera is very considerable. See
COMMERC.
FLEET is also a famous Prion in London, thus called from
the River Fleet, on the Border whereof it stands. See PRION.
To this Prion Persons are usually committed for
Contempt of the King and his Laws; or upon abdicate
Command of the King, or some of his Courts, particularly that
of Chancery, and lately that of High Court of A. See
FLEET, FLEETMAG, FLEEMAG, &c.
FLEMISH, is applied to any thing belonging to Flanders,
or to the Inhabitants of Flanders.
The Flemish Tongue is what we call Low-Dutch, to
distinguish it from the German, which is called simply Dutch,
or High-Dutch; whereof it is a Corruption, and a kind of
Dutch.
The Flemish is the Language used throughout all the Low
Countries: It differs from the Welsh; which is a corrupt
Facade. See WALLON.
The FLEET is the Name of a Tranlation of the Bible.
The in 1468, it was decreed by the Synod of Dort, that a new
FLEET version should be made of the whole Scriptures;
but the attempt in the translation which had been under
the care of Luther, was full of faults. Accordingly, several Persons,
learn'd in the Greek and Hebrew Languages, undertook the
Work; which was publish'd with Notes in 1657. This Bible
is highly valued by the Reform'd in Holland, &c. though
M. Simon enunciates it as far from the Perfection of a just
Tradition. See BIBLE
FLEEMISH BRICKS, a Race, strong kind of Brick, of yellow
or brown colour, brought from Flanders, and much used for
paving.
FLESH, CARO, in Anatomy, a similar, fibrous Part of
an animal Body, soft, thick, and bloody; being that which
made of the flesh of other Parts are compos'd, and whereby
they are connected together. See CONJUNCT.
The Anten makes five different kinds of Flesh: The first
Meatless, Fibrus, or Puralis; as the Substance of
the Heart, and other Muscles. See MUSCLE.
The second, the Muscular Substance, as that of the
Lungs, Liver and Spleen. See PARISCHER MAIN.
FLESH, CARO, is the third, Piferus, as the Flesh of the Stomach and Intestines. See IN-
TESTINES. The fourth, Glandularis, as that of the
Pancreas, the Thymus, Penis, and Testicles. See GANDULOUS, &c.
And the fifth, Spoutrous, as that of the Gums, Phis of the
Penis, the Lips, &c. See GANGLAE, &c.

FLESH, CARO, is the modern only adm of one kind of Flesh, &c. See
THE HUMAN. The sixth, Glandularius, as that of the
Tubes, or Vesicles within the Body. See GANDUL.
So that the hairy and muscular Parts of the Body with them are the same thing. See MUSCLE.
Sometimes, however, they differ from that Term to the
Gladd, because, by way of Distinction, Glandous Flesh, See GLAND.
As to the Preachmen, they are now found to be quite other things than the Antics imagin’d. The Laups are only a Shamming of memorable Vehicles, inflated with Air, See Lungs. The Liver a Collection of Glands, where in the Bile is separated. See Liver. The Spine, a Heap of Vehicles, full of Blood, and the Kidneys, like the Liver, a Mosaic of Animals for seperating of the Urine. See Spine and Kidney.

**Flesh** is also used in Theology, in speaking of the Mysteries of the Incarnation and Exschatiath; The Word was made Flesh. Verbum Caro falso eff. See Incarnation.

The Resurrection of the Flesh is an Article of Faith. See Resurrection.

The Anthropophagi, or Cannibals, feed upon human Flesh. See Carnivores, Carnifex, Carnivorous.

**Fungus** gives, See Fungus.

**Flesh-Colour, See Carnation.**

**Flesh** is also used by Botanists, &c. for the pulpy Substance of any Fruit; as the Outer Rind and Skin, and the Stone; or that part of a Root, Fruit, &c. fit to be eaten.

**Fleur-de-Lisse, Fleur-de-Blettes, Fleuranche, and Fleur.** In Heraldry, see Fleur.

**Flexible,** in Physicks, is applied to Bodies that are capable of being bent, or changed from their natural Form and Direction. See Ductility.

The Willows, Gotas, as the Willow, Poplar, &c., are more flexible than others. The Fibres being inner and more flexible in Women than Men, they have generally a greater Degree of Delicacy of Thought, and Imagination. A Drop of Wine frequently weakens the Will.

A Body is not capable of being thus inflected, or bent, unless the whole thereof be at rest. In bending a Body it contracts, as it were, two Levers; and the Joint is at the middle, as a moving lower, the further it is from the Fulcrum, the greater the Force; the longer the flexible Body is, the easier it is bent.

**Flextion, in Anatomy, &c. is applied to the Motion of an Elastic String.**

The Arm has a Motion of Flextion, and another of Extension.

The Motion of Flextion is, when the Radius and Humerus approach each other, and from an Angle, or the Elbow. See Flextor. See Flextion, or Flextor of Carver, see Point of contrary Flextion.

**Flextion, in Anatomy, A Name given to several Muscles, in respect of their Action, viz. the Bending of the Members, or Joints; in opposition to the Extensors, which open or straighten the Parts.**

**Flextor Capitis, a Muscle of the Head, called also Recluse major anat. See Recluse major, &c.**

**Flextor Carpi ulnaris, called also Cubitus internus, articulates with the inner Protrusion of the Humeral and upper Part of the Ulna, upon which it runs along, till passing under the Ligamentum annulare, it is inflected by a short strong Tendon into the fourth Bone of the Hand, called the Carpus.**

**Flextor Carpi Radialis, called also Radiuscious Internus, rises from the same Part with the former, and running along the Radius, is inflected under the upper Part of the Bone of the Metacarpus, which is joined with the Fore-finger.**

Both these Muscles bend the Wrist.

**Flextor Pollicis longus, a Muscle of the Toe, derived from the Back-part of the Fibula, with a double Order of Fibres, which, running along with the Channel in the inner Part of the Bone of the Heel, to its Infection at the Extremity of the great Toe, on the under Side.**

**Flextor Pollicis brevis, arises from the Middle of the Cuneiform Bone. It is short, thick, and feelying, comingly two, and running over the Termination of the Peroneus, has a double Infection into the Offa Serimeter.**

**Flavii, see Interditius Digitorum Pedis, see Lumbricale pedis.**

**Flavii, see Interditius Digitorum Manus, see Perforatus manus.**

**Flavii, see Interditius Digitorum Pedis. See Perforatus pedis.**

**Flavii, see Interditius Digitorum Mauss, see Perforatus manus.**

**Flavii, see Interditius Digitorum Manus, are Muscles of the Fingers, called also Lumbricale Manus. See Lumbricale.**

**Flavii, see Interditius Digitorum Pedis, see Perforatus pedis.**

**Flavii, see Interditius Digitorum Manus, are Muscles serving to bend the Thumb.**

The flirl, called Flecor tertii Interditiuni, &c. arises from the internal Porance of the Humerus, and part of the Radius, by different Orders of Fibres, and pulling under the Ligamentum Annulare, is inflected into the third Bone of the Thumb.

The second, called Flecor secundii Interditiuni, &c. arises from the external Portion of the Manubrium, and is inflected into the second Bone of the Thumb.—

**FLIE, that Part of the Mariners Compass, on which the thirty two Winds are drawn, and to which the Needle is guided. See Compass.**

**FLIGHT, the Act of a Bird in Flying; or the Manner, Duration, &c. thereof. See Flying.**

The Feathers of Birds are admirably contriv’d and fitted for their different Conveniences of Flight. See Feathers.

Almost every kind of Bird has its particular Flight. The Eagle’s Flight is the highest; The Flight of the Sparrow-Hawk, and Vulture, are noble; dipp’d for high Enterprises and great Purposes. In the Goshawk, kills Carne that feed there; and being gather’d and carried home, kills Rats and Mice in their Houles; That which falls on the Sand, they gather and melt upon a Flapp-heat, into Stones and Sheet-castes.

**FLIGHT of a Stair-Cafe, see Stair-Cafe.**

**FLIGHT, in Heraldry, see Vol. Capone Flight, in some Vulcans, is a Compass of Cupids in Flight; Thrall, due to the offspring of several Brothers, in making Partition of the Father’s Effects with them, when there is no principal Manor in a Lordship.**

It is so called by a Bow-fleet.—

**FLINT, a small, hard, livid or black Pebble. See Stone, and Pebble.**

**Flint is one of the principal Ingredients in the making of Glass.**

**Flint-Glaze, see Flint Glass.**

**Flint and Steel, see Tinder.**

The Indians, instead of Flint and Steel, use two Pieces of green Wood, which they rub violently against each other. In the East, they use the Wood Candun; and in Peru, Yuca-wu. See Fire.

**FLORE, see W حاسباء.**

**FLIP, a sort of Sorters Drink, made of Male Liquor, Brandy and Sugar, mix’d.**

**FLOAT, or FLEET, see FLEET, and FLEETEA.**

**FLORE, or a Quantity of Pieces of Timber joined as a ship is, is thrown into a River, to be convey’d down the Stream, and even to convey Burdens down a River with the Stream. The invention of Fleets is of great use: Tis said to have been first put in Execution at Paris, in the Year 1405.**

**FLOATING Vessels, see Boat.**

**FLOATING, in Husbandry, is the drowning or waterimg of Meadows.**

**FLOATING, in Deluge, or inundation of Waters. See Deluge.**

**FLAT seems to have had some Notion of the Great Flood, and the Intention thereof: &c. Med. &c. &c.**

**FLOODED, &c. Gods purge the Earth with a Flood. Pota. Tim. p. 25.**

**FLOOD is also us’d in speaking of the Tides.**

When the Water is at low, ’tis called FLOOD; when rising, Old Flood; when at highest, and beginning to fall, Ebb Water. See Tides, Ebb, FLOOD, &c.

**FLOOKE, or Flood of an Anchor, see Anchor.**

**FLOOR, in Building, the Underside of a Room, or that Part of the Ground below the Windows.**

**Floors are of divers sorts; some of Earth, some of Brick, stones of other, Stone, &c.**

Carpenters, by the Word Floor, understand as well the framings of the Old Flood, when they were building over the Water. See Threshing. See Paving.

**East End Floors are commonly made of Lome, and sometimes, especially to make Malt on, of Lime, and Brook Sand, and Gun-Dust, or Anvil Duff from the Forge.**

**FLOORS, see Paving. See Sir Hugh Plat says, makes the finest Floor in the World. For Brick and Stone Floors, see Paving.**
For boarded Floors, it is observable, that the Carpenter
never floor their Rooms with Boards, till the Carpenters
are set up, and also includ'd with Walls, lest the Weather should
work its prejudicial Agency in them. And the Carpenters are
Boarded for the Floors, before they begin any thing else
about the Building, that they may then fix them to dry
and leave; which is done in the most careful manner.

For boarded Floors, it is observable, that the Carpenters
set up their Bottoms of their Floors, as low as
the Crosses, so that such Ships have
as long, and withal broad Floors, lie on the Ground
with most Security, and are not apt to teel, or tilt on one Side
more than another. For the Reason, that the base of the
sea-Phoebus, Cronied by the Ground, cannot be guarded
without Danger of being overthrown.

The Floors were called Anti-fires; they were held
at the latter end of the Month of April, as Ovid
witnessed;

in effe, the Florala began on the 15th of April, and
lasted six Days.

That who attended, at the Ceremony, were crown'd with
Ivy, and committed a world of undoeme things; which
indeed was a extraordinary thing in the Heathen Feasts.
Some apply the Word Florialis indifferently to the
Feasts, and others to this Goddes, but others a certaine
Feast alone; calling the Games Ludi Florales. See FLORAL:

In effe, the Florala began on the 15th of April, and
lasted six Days.

THAT who attended, at the Ceremony, were crown'd
with Ivy, and committed a world of undone things; which
indeed was a extraordinary thing in the Heathen Feasts.
Some apply the Word Floralis indifferently to the
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FLORIANI, a Soft of Hereticks, of the second Century, denominated from its Author Floriani, or Florinius, a Priest of the Roman Church, depicted along with Flos, Tinet, and Ollio, in a late Edition of old Sandford, was to be coiled into fifty Florins, to be currant at six Shillings a piece: all which made in Taie fifteen Pounds; or into a proportionable Number of half Florins, in the Night-time, and giving into Judaim and Paganism.

They had other Names given them: Polyfratius says, they were the same with the Carpophorians. He adds, that they were also called Scithians, Guis de maia, or Guis de martirabia, or Guis de martirabia. St. Irenaus calls them Guishickis: St. Epiaphias, Philibauums; and Theodore, Sarbores, on account of the Imputrities of their Life: Others call them Zacharias; others Cuthbert, though, in particular, a number of them, is not, nor perhaps' it would be worth while, to say.

FLORIST, a Perlo curious, or learned in Flowers; their Kinds, Names, Characters, Cultures, &c. are called FLORA, FLORE, FLORET, FLORETTY, FLEUR, FLOMETTE, FLEUR-DE-LIS, &c. are Terms in Heraldry, when the Outlines of any Ordinary are done within a Perlo, without a Perlo, with a Perlo, &c. the Flowes, Lilies, Flower-de-Luces, &c. Thus, he Bears a Cross Floro, &c.

FLORA, or Flotta, i. e. Fleet, a Name the Spaniards give particular Names to the Ships which they would divide among their Parts of the Flowers, Lilies, Flower-de-Luces, &c. hence, he Bears a Cross Floro, &c.

FLORIS, or Flotta, i. e. Fleet, a Name the Spaniards give particular Names to the Ships which they would divide among their Parts of the Flowers, Lilies, Flower-de-Luces, &c. hence, he Bears a Cross Floro, &c.

FLOTTAGE, or FLOTTAM, a Term signifying any Goods lost by Shipwreck, and Swimming on the Top of the Water which, with Jetson, and Logion, and Share, are given to the Lord High Admiral, by his Letters Patent. See ALSO.

Jetson is what is cast out of the Ship, being in Danger of a Wreck, and beaten to the Shore by the Water; or cast on Shore by the Storm. See JETSON.

Logion, or Lagion is that which lies in the Bottom of the Ship. See ALSO.

Shares are Goods due to several Persons, by Proportion.

PLONDEY, Fitting, See Founders.

FLOWER, Fire, is that Part of a Plant, which contains the Organs of Generation; or the Parts necessary for the Propagation of the Kind. See Planta, and Generation of Plants.

The Flower is a natural Production, which precedes the Fruit, and yields the Grain or Seed. See S.B.E.D.

FRUIT.

The Structure of Flowers is somewhat various; though the principle, according to Green, have these three Parts in common, viz. The Sepals, the Petals, and the Stamen. See Empolament, or the Attire. See Epallament, or the Sett, or the Attire. See Empolament, or the Sett, or the Attire. See Epallament, or the Sett, or the Attire. See Empolament, or the Sett, or the Attire. See Empolament, or the Sett, or the Attire. See Empolament, or the Sett, or the Attire. See Empolament, or the Sett, or the Attire. See Empolament, or the Sett, or the Attire. See Empolament, or the Sett, or the Attire.

Mr. Ray reckons, that the flower is the Pea, the Teasel, the Thistle, and Puff, or Puffin: Such as want any of these Parts, he deems Imperfect Flowers. See Petala, Stamina, Pistil, &c.

The flower is a Head, and consists of the Sepalum, Calyx, or Flower, Cup, of a stronger Consistency than the Flower itself, and defended to strengthen and preserve it. See Perianthum, and Calyx.

In two Flowers the two Sexes are confounded, i.e. the Male and Female Parts are found in the same Flower; in others, they are separated: And of these again, some are followed by Fruits, and others not: Whence, Flowers become distinguished into Male, Female, and Hermaphrodites.

The Generality of Flowers are of the Hermaphrodite kind: Thus e.g. the Lily, Tulp, Daffodill, Redemey, Sage, Thyme, Geranium, Arthe, &c. See Hermaphrodites.

The Structure of Plants is much the same in those where the Sexes are divided. The Difference between them consists in this, that the Stamina and Anthes, i.e. the male Parts, in those are separated from the Flower, being some times on the same Band, and sometimes on different ones.

Those, whereas the Stamina are in regard they bear no Fruit, are called Male, or barren Flowers, and by the Botanists, Helvetiae. Those, which contain the Flower, being succeeded with Fruit, are called Female, or Knitting, or Fruitful Flowers.

Among the Plants which bear both Male and Female Parts, there are those, which by difference from each other, are reckoned, the Cucumber, Melon, Gourd, Turky Weath, Turnifol, Walnut, Oak, Beech, Fir, Alder, Cyprea, Cedar, Juniper, Mulberry, Plantan, &c.

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From the Flowers of some of the Plants of the Family of the Night-time, and giving into Judaim and Paganism.

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[Note: The rest of the text is not clearly visible.]
Infundibuliform Flowers, are such as resemble the Fig- ures of a Funnel, i.e. broad, and ample at top, and con- trasted into a Neck at bottom: Such is that of the Bear's Ear.

Cucurbitaceous Flowers, are such as resemble the Flower of the Gourd; or have the same Conformation therewith. See Cucurbitaceae.

Flowers, are such as have no Petals, but consist wholly of Ovamina or Stems, with a Parachute: Such are some of the Leaves placed around the Stamens, are not to be esteemed as Petals, but a Calyx; in regard they afterwards become the Flower-Cover, including the Seed; which is the Office of the Calyx in Flowers. See CALYX.

In effect, it is essential to the Leaves of Flowers, not to serve as a Cover to the Seeds that succeed them: And this is accomplished by a Calyx that distinguishes the Leaves, or Petals of Flowers from their Callus; for, that no particular Colour of the Leaves does determine, whether the Parts in dispute be Leaves of the Flower, or the Calyx of the Flower, is evident from hence, that there are some Leaves of Flowers, which are green, like the Calyx; and some Calices colored, like Petals.

Leguminous Flowers, are those of Leguminous Plants. They bear some Resemblance to the Flying Butterfly; for which reason they are also called Papilionaceous Flowers.

Papilionaceous Flowers, consist of four or five Leaves, whereof the uppermost is called Vessula, or Standard; and the lowermost, or followed by the Embasing or Bottom of a Boat: Those between the two, are called Lateral Leaves, or Bar.

From the Bottom of the Calyx arise a Pilli, which is incumbent to the Flower; and the Stigma, fringed with Stamens. This Pilli always becomes the Fruit of the Flower, a usually called the Pod, in Latin, Silqua. See Leguminous.

Umbelliform Flowers, are those with several Leaves dependent from a common stalk or Stem, in the form resembling the Bottom or Keel of a Boat: Those between the two, are called Lateral Leaves, or Bar.

See Umbrelliform.

Verticillate Flowers, are those ranged, as it were, in Storches, Rings, or Rays along the Stems: Such are called Holocarpous Flowers.

Flowers, in Gardening, are distinguished into Early, or Spring-Flowers, which flourish in the Months of March, April, and May.

Such are the Anemones, Daffodils, Hyacintias, Tulips, Jonquils, Cowwills, Primroses, &c.

Summer Flowers, which open in June, July, and Aug- ust, as Pinks, Gillies Flowers, Lillies, Dafeis, Campanulas, Lupins, Snapdragons, &c.

And Autumnal, or Late Flowers, those of September and October, as the Oxalis Chiffil, Indian Pinks, and Roses, Plums, Florid Genta, &c.

Or of those other Flowers, which subdivide all the Year, we mean in the Stem, or Root at least, are called Periodical; and those which are to be planted, or to break a Tryst every Year, according to the Season, are called Annuals. See GREEN-HOUSE.

Flower, in Architecture, according to Vitruvius, is a Re- presentation of some Imaginary Flower, by way of crowning, or finialling, on the Top of a Dome, &c.

Flowers, in the Moderns commonly uie a Vase, Ball, or the like.

Flower of the Capital, is an Ornament of Sculpture, in form of a Rose, in the middle of the Sweep of the Corinthian Abacus, of the Composity; 'twas an Imaginary kind of Flower. See Capital.

Flowers, in Chymistry, are the finest, and most volatile Parts of dry Bodies, raised by Fire, into the Head, and Adu- lative, and form the truest, or sublimate, or Dufi. Such are the Flowers of Sulphur, Benjamine, &c. See SUBLIMATION.

Flowers of Sulphur, or Brimstone, is generated by put- ting the Sulphur, strongly powdered, into a Glass Bottle in a small open Fire, with another earthen Vessel of the same form over it, or in it, Neck to Neck. This dispensed, the Fire will sublimate, or raise the Flowers, and gather them in the Bottle, to sublimate; &c. See SULPHUR.

Flower of Wheat, Rye, and other Pals. See FA- RINA.

Flowers, in the Animal Economy, are Women members of Vagaries, or Paraphrenes. See MEINL.

Nedic derives the Word in this sense from fluer, q. d. Flower: Others will have the Name occasion'd hence, that it was not conceiv'd, till they had had their Flowers; so that there are a sort of Peranagrams of their Fruit.

Flowers, in Rhetoric, are Figures, or Ornaments of Discourse, by the Latins called Figuris. See FLOWER.

Flower-de-Lis, or, as it is vulgarly wrote, de Lys, in Heraldry, is a bearing antitype of great Dignity; being re- presented in almost all Armories, and is said, by some, to have been used by the French in all Ages the Charge of the Royal Ecuyere of the Kings of France; though Traut of Time has made the bearing thereof more vulgar.

There are also Single; or in others Triple; in others, it is Semee, feed all over the Ecuyere.

FLOWERAGE, a Collection of Flowers of several kinds set together, in Hurst, and hang up with Strings.

Flowers-de-Lis are found in the Arts of the Old Men, or Cloths is said to be flower'd, fourflied, friplied, or figured, when there are Representations of Flowers, either natural, or imagi- nary wrought thereon.

There is little difference'd of almost all kinds of Materia: Flowers of Gold, Silver, Silk, Wool, Thread, Corson, &c. Stuff and Cloths are usually designated from the Ground, whereon the Flowers are raised.

Here are founde Velvetts, Taftiess, Damask, Satins, Mohairs, Diminice, &c. See VELVET, TAFTE, DAKASS, SATINAS, DAMASK, &c.

Thofk flower'd with Gold and Silver, are more usually called ORNAMENTAL, &c. See BROCADE.

The Flowers are usually wrought at the same time with the Cloth, or Ground. The Threads of the Warp are raised, and lowered by means of Tackheads, pa'd through their Nibbs, and when they are in the Right way of dressing the Warp, or matter of the Flowers, whether Gold, Silver, Silk, or the like between the Threads thus rais'd, forms the Flowers. See Warp, Woof, WEAVING, &c.

And when they are disposed of as they are called, Read a Design, to be represented on a Stuff: But it is next to impossible to describe it; yet we have endeavourd to give some Idea thereof under the Article DESIGN; see also FLOWERS.

FLUIDITY, in Physicks, that State or Affiction of Bodies, which denominates, or renders them fluid; see FLUID. Fluidity stands in direct Opposition to Firmness, or Se- liency.

It is distinguished from Liquidity, and Humidity, in that the Idea of the first is ableness, and the Property contain'd in the thing it self; whereas that of the latter is relative, the Body being able to absorb or desorb moisture, i.e. let it pass in or out; whereas the former is the constancy of the Sensation of Wetness, or Moisture, which would have no Existence, but for our Sensiles.

Thus, melted Metals, Air, Ether, and even Smoke and Fire, it is fluid, and loose, but not Liquid; one, their Parts being actually dry, and not leaving any Sense of Moi- sture, see Liquid, and Humidity.

The term, or Coule of Fluidity has been variously af- flicted; The Ancients, and Pythagorean Cosmopoli- tanians, require only three Conditions as necessary thereto, i.e. a Smallness, and Smoothness of the Parts of the Body; Vaci- ues intersected between them; and a Spherical Figure. Thus, in Hermetic Poets, &c.

Diis autem dens ex levibus atque rustibus Fige magno, fluidoque carpe liquida confluent.

The Carteles, and after them Dr. Hook, Mr. Boyle, &c. before the Circumstances above mentioned, require a va- rious, perpetual, incontinent Motion of the Parts of the Bo- dies, as that which principally contributes to Fluidity.

Thus, according to these Philosophers, conveys in this, that the Parts of the Body being very fine, and small, are to be disposed by Motion, or Figure, as that they can easily flow over one another. Surfaces all manner of ways; and that they be in a coule, and that the latter to the former, and to fro; and that they only touch one another in some Parts of their Surfaces.

Thus, Motion of the Parts is the main Source of Fluidity; the three Conditions principally required to Fluidity, viz.

1. The Motion of Parts: As, in effect, we find that Fire, by dividing Metals into fine, small Parts, renders them fluid; so that Menstrums dissolve and render their fluid after the like manner, and that this is the hard Body of common Salt almost wholly into a Liquor, by Di- ffillation; But not that the Figure of the Particles may have an influence. Such is the Essentia of Fluidity.

Thus Mercury, whose Parts are doubtless much greater than those of Oil and Water, is yet more fluid than either of them: And thus Oil, by the Action of Fire, may be converted into a Uniform Substance; like which we call Fluid, to distinguish it from the Copu- laces, to give room for several Particles to move amonst themselves.

2. A Motion and Activation of the Copules 3 either from some Principle of Mobility within themselves, or from some extraneous Agent, penetrating and entering the Forces, moving variously among them, and communicating to them part of its Motion.
That this list is the Qualification chiefly required in Fluidity, he argues from divers Observations and Experiments.

Thus, a little dry Powder of Alabaster, or Plutier of Pumice stone finely sifted, being put in a Vessel over the Fire; it soon begins to boil like Water; exhibiting all the Motions and Phenomena of a boiling Liquor. It will kindle variously in great Vessels, being heated with a strong Fire, and when there will burst like a phlegmatical Matter; and, without refilling; Nay, if strongly sifted near the Side of the Vessel, its Waves will apparently dash against it; yet it is all the while a dry, parch'd Powder.

In short, like is observ'd in Sand; A Diff of which being set on a Drumhead, briskly beaten by the Sticks; or on the upper Stone of a Mill, it in all respects emulates the Properties of a fluid Body. A dry Body, e. g. a cork, will immediately break at the Bottom, and a light one emerge to the Top; Each Grain of Sand has a constant vibratory and dancing Motion; and if a Hole be made in the Side of the Diff, the Sand will spill itself like Water.

That the Parts of Fluids are in continual Motion, the Carriagings being divers Considerations to prove it; The Transformation of Solids into Fluids, &c. Ice into Water, and vice versa, the chief Difference between those two States consisting in this, that the Parts being fix'd and at rest in the one, refill the Touch; whereas in the other, being already in Motion, they gave way upon the slightest Impulse.

The Effects of Fluids, which commonly proceed from Motion; Such are the Inflations of Fluids among the Pores of Bodies; the softening and dissolving of hard Bodies; the Actions of corruptions, and the like; the Milk can do in the Body of a State of Fluidity, without the Interven-

tion of some moving, or moveable Body, as Fire, Air, or Water.

Air, the first Gentleman holds the first Spring of the great CAUSE of Fluidity; it is this that gives Motion to Fire and Water, though it itself receives its Motion and Action from the Aether, or subliterate Medium. See Air and E-

ther.

The Learned Beza, in his late Excellent Juslirum, Cymbium, pleads very sincerely for Fire's being the first Mover, and the Cause of all Fluidity in other Bodies, as Air, Water, &c. Without this, he pleaseth, that the Atmospheric Air, or the fluid Body, could not be in Fire.

Sir I. Newton fes aside this Theory of the Cause of Fluidity, and falsifies a new one, the great Principle of At-

traction.

The Corpocular System, with all the Improvements of Des Cartes, and Mr. Boyle, did not sufficiently account for the primary Condition, requisite to constitute a Body fluid, viz. the various innumerable Motion and Agitation of its Part-

icles.

But, this Motion is naturally enough accounted for, by supposing it a primary Law of Nature, that, as all the Part-

icles of a Body are in continual Motion, so, when in a continual Di-

fluence; so at all greater Distances, they fly from, and avoid one another.

For then, the incomparable Gravity together with their Vortices, may keep them together in a Mal; yet their continual Expedition to avoid one an-

other insensibly, and the adventitious Impulses of Heat, Light, or other external Causes, may make the Particles of Fluids continually move round one another, and so produce this Quality.

There is a Difficulty indeed, in accounting, why the Part-

icles of Fluids always keep at such a Distance from one an-

other, as not to come within the Sphere of one another's At-

traction.

The Fabric and Constitution of that fluid Body, Water, is amusing; that a Body so very rare, and so light, has its own little Weight, and even its own little Motions. As Vegetables, so far as they are to be considered as Vessels, or Body fluid Matter, should yet be perfectly incompreseivable by the great-
nest Effort; And yet this Fluid is easily reducible into that firm, transparent, stable Body, which we call Ice, by being cooled, and reduced to a certain Degree of Cold. See Cold and Freezing.

One would think, that tho' the Particles of Water cannot come near enough to attract each other, yet this continual moving, or rattling, or rolling, being done per minimam, strongly attract them, and it is felt likewise strongly attracted by them, and so wedged or fixes all the Mal into a fluid body, which could be that, and be wedged in by the Vortices, and the frictional Particles are disjointed from those of the Water, and are forced to fly out of it; And just thus may the Flames of Lead perhaps be made to melt without turning it to a fluid.

When a firm solid Body, such as a Metal, is by Heat reduced into a Fluid, the Particles of Fire disjoin and separate its constituent Parts, which their mutual Attraction cau ed before to cohere; and keep them at such a distance from one another, as that they are out of the Sphere of each other's Attraction, as long as that violent Motion lasts; and when by the Fire they are not so violently rent, as that they are rescued by continual Supply, the component Par-

ticles of the Metal come near enough again to feel one an-

other's Attraction.

As for the CAUSE of Cohesion of the Parts of fluid Bodies appears to be their mutual Attractions; so the chief Cause of Fluidity seems to be a contrary Motion, prevent ed on the Particles of Fluids, by which they avoid, and by one which they are kept at such a Distance that they do not cohere; and as long as they keep at such a Distance from each other.

It is observable also in all Fluids, that the Direction of their Pressure against the Vessels which contain them, is in Lines perpendicular to the Surface of the Fluid; which Property being the necessary Root of the Particles of any Fluid's being spherical, it follows that the Parts of all Fluids are so, or of a Figure very nearly approaching thereto.

But to conclude, this Motion being a Principle so exactly connected; their mutual Cohesion being in great measure prevented from some external Cause: in which sense a Fluid Hands opposed to a Solid. See Solid.

Sir I. Newton defines a fluid Body, to be that whose Parts yield to the smallest Force impelled, and by yielding are easily moved among each other.

The Cause, therefore, of Fluidity, should seem to consist in this, that the Parts of Fluids are so strongly and as strongly, as they do in solid or firm Bodies; and that their Motion is not hinder'd by any Inequality in the Surface of the Parts, as is the Case in Powders.

But the Particles of those Bodies whose Fluids consist, are of the same nature, and have the same Properties with the Parti-

cles of Solids, is evident, from the Conversion of Liquids and Solids into each other, &c. g. of Water into Ice of Mo-

tan. No other Body, but that of which the component Parts of all Bodies are the same, viz. hard, solid, impenetrable, moveable Copraciles. See Body, and Matter.

The Newtonians define a Fluid to be a Body whose Parts are in continual interline Motion; and Dr. Hole, Mr. Boyle and Boerhaave, the last from Carcassius, subcribe to the Definition; alluding Arguments to prove that the Parts of Fluids are continually in Motion; and even that it is this Motion, which constitutes Fluidity. See Fluidity.

The later Newtonians dare not go so far: To say that the Parts of a Fluid are in continual Motion, is more than we are able to define a thing from a Property that is disputable, is certainly bad Philosophy. See Definition.

Add, that the great Argument from Geometry, produced in favour of this continual Motion, viz. that the Resistance of a Body moving in a Fluid, is less, if the Parts of the Fluid be agitated by an interline Motion, than if they were at rest, is demonstrated by Dr. Clarke, and consequently, with Dr. Clark. That if the Parts of a Body either do not touch each other, or easily slide over one another; and are of such a Magnitude, as that they may be casually displaced; And that the Parts that are not agitated, tho' it may perhaps be less than sufficient to prevent Water from freezing; Or, even, tho' the Parts be not actually moved, yet, if they be small, smooth, slippery, and of such a Figure and Magnitude as deters them to move and give way: That Body is fluid.

And yet the Particles of such fluid Bodies, do, in some measure, cohere; as is evident hence, that Mercury, when well agitated of Air, will be filled up in the Barometer, to the Height of 60 or 70 Inches; that Water will ascend in Capillary Tubes even in Vaccum; and that the Drops of Li-

quors in Vaccum run into a spherical Form: As adhe sing bodies to each other are the Ground of the rectangular Planes. Add, that these fluid Bodies, if they consist of Particles that are easily entangled with each other, as Oil; or if they be capable of being filled up by Cold, and jointed by Cold, i.e. if they be not fixed, or if, Wedges, as they are easily render'd hard: But if their Particles be such as cannot be entangled, as Air; nor rendered by Cold, as quicksilver; then they never grow hard and fix'd. See Part.

Fluids are either Natural, as Water, and Mercury; or Animal, as Blood, Milk, Bile, Lymph, Urine, &c; or Pha-

tomous, as Water, Spirit, Oil, &c. See each Element; &c. Milk, Bile, Wine, Spirit, Oil, &c.

The Doctrine and Laws of Fluids are of the greatest Ext-

tent in Philosophy. See Atmosphere, and Gravitation of Bodies in Fluids, and the Action of the Fluids immerged in them, makes the Subject of Hydrostaticks. See HYDROSTATICS.
FLU (59)

Hydrostatic Laws of Fluids.

I. Of the Preffure and Equilibrium of Fluids.

The upper parts of all Fluids, at Water, &c. do preff upon the lower: Or, as some Philosophers have it, all Fluids do preff upon the lower part of the vessel they are in. The Contrary of this was a Principle in the School-Philosophy; but the Certainty of such Preffure is now demonstrated by a thousand Experiments: It will be sufficient to illustrate it by the following:

Immerge a Tube, open at both ends, and half filled with Oil of Turpentine, in a Vessel of Water, the upper End of the Tube being stopp'd with the Finger: If now the Finger is taken out, the Oil will rise as low as that of the Water: the Oil, upon removing the Finger, will sink, but not to the lower End of the Tube: Nay, and if the Tube be thrust a little lower, the Water will rise up in it, and bear the Oil along with it: For the upper Surface of the Oil will considerably rise above that of the Water: From whence follows, that the Column of Oil in one calle preffes or gravitates less on the Plane imagined to pass under its lower Surface, than a Column of Water; and, in the other calle, more.

Or thus: an empty Vial, close flint, being immersed in Water, and suspened by a Morble Hair to the Beam of a Balance, the Finger end exactly counterpoising it: Upon unstopping the Vial, and letting it fill with Water, it will preponderate, and bear down the End of the Balance; without having any Communication with the lower End of the Vial.

Which two Experiments abundantly prove the Propofition, that the upper Parts of Fluids preff, or gravitate on the lower. See Pressure, and Gravity.

2. Of Gravity, it follows, that the Surfaces of Magnets and Fluids are Plane, or parallel to the horizon; or rather that they are Segments of a Sphere concentrical with the Earth.

3. Of Particles of Fluids are suppos'd to yield to any Force imprefled, they will be moved by the Action of Gravity, till all as time as none of them can defend any lower. And this Situation once attained, the Fluid must remain at rest, unless acted on by a new Force, and inasmuch as none of the Particles can now oppose without ascending contrary to their natural Tendency.

If a Body be immerg'd in a Fluid, either equally, or in different Proportions, its Surface will be preff'd upward by the Water underneath it.

The Truth of this Propofition is evident from the Experiment above mention'd, where the Oil of Turpentine was suspend'd, and made to mount up in the Tube by the Preffure of the Water upwards on its lower Parts.

The Law, or Quantity of this Preffure is this, that a Body immerg'd in a Fluid, loses just so much of its Weight in proportion as the Preffure of the Fluid is equal to it in Bulk, if weight'd in the Air, would amount to.

This Preffure of Fluids on the lower Parts of an immerg'd Body is farther confir'd, by attending to the Reason why Bodies are preff'd upward by the Air and Water. This Effect is owing to this, that there is a greater Preffure or Weight on every Part of the Plane or Surface of the Immerg'd imbedd'd to pass under the lower Surface of the Body, than there is when the emerging Body is imbedd'd. Consequently, to produce an Equilibrium in the Fluid, the Parts immediately under the rising Body being preff'd by the roll every way, do continually force it upwards.

In effed, the emerging Body is continually preff'd on by Two Columns of Water, one bearing against its upper; and the other against its lower Parts: The length of both which Columns being, as is well known, accurately ascertained, and that which preffes on the lower Part, will be the longer, by the Thickness of the ascending Body, and consequently overbalance it by the Weight of as much Water as will fill the Space that Body occupies.

See Specific Gravity.

Coroll. 1. Hence we are confirm'd with one Reason, why very minute Corpuscles, either heavier, or lighter than the Liquor they are immingl'd with, will be fulfill'd therein a very long time, because the rising Force is negligent of the Equating to the Bottom: The Difference between the two Columns of the Fluid being here inconceivable.

Coroll. 2. Hence also, if a Body A be specificaly heavier than B: If A is immersed, it will rise with a Force proportional to the Excedance of Gravity of B above A: And if A be specificaly heavier than B, it gravitates and descends with the excess only of its Weight.

3. The Preffure of the upper Parts of a Fluid, on the lower, exerts itself every way, and every way equally, laterally, horizontally, and vertically as well as perpendicular,

4. In Tubes that have a Communication with each other, or any other, the Fluids in them are of equal Height, and everywhere the same Form, and as high, and as deep as the greatest End of the Tube G I to the Bafe of the other, H K. But the Attitude of the Fluid being suppos'd the same in both, the Quantity of the Fluid in the Tube G I, will be to the Quantity of the Fluid in the Tube H K as the Bafe of the Tube G I, to the Bafe of the other, H K.

5. If a Fluid have the same Attitude in two Tubes that communicate with each other, or any other, the Fluid in one Tube is as a Balance, or equal in weight, to that in the other.

If the Tubes be of equal Diameter, the Columns of the Fluid having the same Bafe and Altitude, are equal; but if not, they preff and gravitate against each other with equal Force.

This is demonstrat'd from Mechanicks. E. gr. Let the Bafe of G I and H K be of equal Diameter, Fig. 6. be suppos'd Quadrapule the Bafe of H K, and the Tube H K be as great in the Space of an Inch, as from L to O; it will then rise in the other the Space of four Inches, as from M to N. Whereas the Velocity wherewith the Fluid moves in the Tube H K is the same as the velocity of the Fluid of the Tube G I to the Bafe of the other, H K. But the Attitude of the Fluid being suppos'd the same in both, the Quantity of the Fluid in the Tube G I, will be to the Quantity of the Fluid in the Tube H K as the Bafe of the Tube G I, to the Bafe of the other, H K.

Consequently, the Momentum of the Fluid in the Tube G I to the Bafe of the Tube H K, as the Product of the Bafe of the Tube G I into the Attitude of the Tube H K, to the Bafe of the other, H K.

For the specific Gravity of the Fluid in A B, is to that in D C, as D H, to B G. If the Fluids be apt to mix, it may be proper to fill the Horizontal Tube B D with Mercury, to prevent the Mixture.

Coroll. Since the densities of Fluids, are as their specific Gravities, the Densities will likewise be as the Altitudes of the Fluids D H and B G: So that we have here a simple and easy method of determining the Densities of Fluids. See Density.

7. The Bottoms, and Sides of Vessels, are preff'd in the same manner, and by the same Laws as the Liquids, containing in them.

Coroll. Hence as Action and Re-action are equal; the Fluids themselves, unfail an equal Preffure from the Bottoms and Sides. And as the Preffure of Fluids is equal everywhere, as much is it is everywhere the same at the others, and in the neighbouring Parts of the Fluids: And consequently this Action increases in proportion to the Height of the Fluid; and it equal every way at the same Depth, as depending almost from the weight of the Fluid.

For in perpendicular Vessels of equal Baffes, the Preffures of Fluids on the Bottoms, is in the Ratio of their Altitudes.

This is evident, in that the Vessels being perpendicular, the Bottoms are horizontal: Consequently the Tendency of Fluids by the Action of Gravity will be in Lines perpendicular to the Bottoms, and not with all equal Weight. The Bottoms therefore are prov'd in the Ratio of the Gravities. But the Gravities are as the Baffes; and the Baffes here are as the Altitudes: Therefore the Preffures on the Bottoms are as the Altitudes.

5. In
9. In perpendicular Veils of unequal Balls, the Pressure on the Bottom is in a Ratio compounded of the Bases, and Altitudes.

From the preceding Demonstration it appears, that the Bases are compounded in the Ratio of the Gravities; and the Gravities of Fluids are as their Bases; and their Bases in a Ratio compounded of the Bases and Altitudes. Consequentlie, &c.

10. An inclined Veil F A B C D F, Fig. 8, have the same Bases and Altitude with a perpendicular one B E F G, the Bottoms of each will be equally press'd.

For in the inclined Veil F A B C D, if the Center of Gravity B be in the direction B D, the Force of Gravity in the direction B D, is to the absolute Gravity, as B E to B D. See Gravity.

Consequentlie, the Bottom C D is press'd in the same manner as if it had been press'd perpendicularly by the Fluid under the Altitude B E. Therefore, the Bottoms of the perpendicular and inclined Veils are equally press'd.

11. Fluids press upon subsided Bodies, according to their perpendicular Attitude, and not according to their Latitude.

Or, as others frame it, thus: If a Veil be taper, or unequally big at Top and Bottom; it would be press'd according to the same manner as if the Veil were cylindrical, and the Top and Bottom equal.

Or thus: The Pressure sall fall on the Top of a Veil, whatever the Figure may be; which is reduc'd to this: Take the Top of the Fluid, whose Base is the Bottom it fell, and Height, the vertical Distance of the upper Surface of the Water from the Bottom.

Or, yet more explicitly, take two of the Top Tubes or Veil, whose Heights, and Bases, both filled with Water; but one of them made so tapering upwards, that it shall contain but twenty Ounces of Water, whereas the other widening upwards, and containing the whole fluid, the Bases of those two Tubes shall furnish an equal Preassure of Water, viz. each of them, of that of the Weight of 2000 Ounces.

This is a noble Paradox in Hydrostaticks, which it well worthy of being notice and inventing on. It is found uneconomically true from Experiment: And may even be demonstrated and accounted for on Principles of Mechanics.

Suppose e. g. the Bottom of a Veil, C C D (Fig. 9,) less than its Top, A B. Since the Fluid press the Bottom C D, which we suppose horizontal, in a perpendicular Direction E G, none but F coming, within the Cylinder B E C the Tendency, and natural Tendency and Preassure of the veilt being taken off by the Sides. Again, supposing the Bottom, C C D (Fig. 10.) much bigger than the Top E F G. Or even, for the easier Demonstration, suppose a Tube F E F C D in a Cylinder A B C D; And suppose the Bottom C D raised to L; that the Fluid may be moved through the Interval D L. Then will it come to L, and press upwards to D, as if it had been in the Base C D to that G F. The Velocity therefore of the Fluid E F D is, to its Velocity in the Veil A D; as the Base C D to the Base G F.

Thus if you take the momentum whereby the Fluid in the Tubes tends downwards, by multiplying the Base of the Cylinder C D into its Altitude C K;

Consequentlie, the Bottom C D is press'd with the same Force; as it would be press'd by the Cylinder H C D I.

To confirme and illustrate this Doctrine of the Preassure of Fluids in the Ratio of the Bases and Altitude, provide a metalick Veil, A B C D E (Fig. 11.) composed of a) as the Bottom, and to that End fitted in the Cavity of the Veil with a Rim of wet Leather, to slide without letting any Water pass. Then, thro' a Hole in the Top, A B, apply a Drop of Water, and the Water will be subsided Diameter. Lastlie, falling a String to the Boom of a Balance, and fixing the other End by a little ring K to the moveable Bottom; put Weights in the other Scale, till they balance that end. Thereupon you may easily find, that the same Weight is required, what Diameter or Magnitude severer the Tube be; but even, that the Weight which will raise the Bottom, when press'd by a Cylinder H C D I.

12. The weight of fluid and ponderous Body, which near the Surface of the Water would float with great Velocity, yet float more slowly when the weight was taken away. Thus a Fish, though it will not sink, will not by itself after the Weight of the Incumbent Water.

Thus, immerse the lower End of a slender Glass Tube in Water, and then, placing the Lower End of the Tube near your Finger, you will by that means keep about half an inch of that ponderous Fluid, suspended in the Tube. Lastlie, keeping the Finger thus, immerse the Tube in a long Glass of Water, till the little Needle of Water by

13. or 14 Times its Length Under Water. Then, removing the Finger, you will find that the Mercury will be kept sub

sed in the Tube by the Preassure of the Water upwards; But if you raise the Tube a very little above the former Station, you shall find that the Needle of Water, if before you had removed the Finger from the Top, you had sinkt the Pipe low, as that the Mercury were at or 14 Inches, &c. below the Surface of the Water, the Mer

cury would rise to the Top, as if the Tube were a Cylinder of Acetum and Deccums in the Tube, till it had gain'd its proper Station, according to the Laws of specific Gravity.

Corol. Hence we have a Solution of the Phenomenon of the Rises of the Fluids, in other Planes, submerging one another; and that is, that the Atmosphere presses or gravitates with its whole Weight on the surface, and the lower Marble; and cannot do so at all on its upper Surface, which is cleanly contiguous to the upper, and fulpedent Marble.

11. For the Laws of the Preassure and Gravitacion in Fluids, or the Relations of solid Bodies, moving in Fluids, see RESIST.

12. For the Affect of Fluids in Capacible Tubes, or between Glasl Planes, see ASCENT.

The Motions of Fluids, and particularly Water, make the Subject of Hydrodynamick. See HYDRODYN.

Hydraulic Laws of Fluids.

1a The Velocity of a Fluid, at Water, moved by the Preassure of a superincumbent Fluid, is as, Air is equal at equal Depths; and unequal, at unequal ones.

Or, when the Body descends in the Fluid, the Velocity attained thence must be too; and vice versa: Yet does not the Velocity follow the same Proportion, as the Depth; notwithstanding that the Pressure, whence the Velocity arises, does increase in the Proportion of the Depth. But here the Quantity of the Matter is concern'd: And the Quantity of Motion, which is compounded of the Ratio of the Velocity and Quantity of Matter, is increased in greater Proportion to the Superincumbent Fluid.

2a The Velocity of a Fluid ariseth from the Preassure of a superincumbent Fluid, at any Depth, is the same as that which a Body would acquire in falling from a Height, equal to the Depth. As it is demonstrated both from Mechanick and Experiments. See DESC.

3a If two Tubes of equal Diameters, full of any Fluid, be placed any lower, either erect, or inclined, provided they by the same Altitude, they will discharge equal Quantities of the Fluid in equal times.

That Tubes, every way equal, shall, under the same Circumstances, discharge equal Quantities of Water, that the Bottom of a perpendicular Tube is press'd with the same Force, as that of an inclined one, when their Altitudes are equal, has already been shewn. Whence it easily follows, that as six Quarters of a Yard are equivalent, to two; Or, that two Tubes of equal Altitudes discharge the same Quantities of Water.

4a If two Tubes of equal Altitudes, but unequal Apertures or Diameters, be kept constantly full of Water, the Quantities of Water they yield in the same Time, will be as the Diameters. And this, whether they be erect, or any how inclined.

Corol. If the Apertures or Diameters be circular, the Quantities of Water emptied in the same time, are in a dupl}

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This Law, Mariotte observes, is not perfectly agreeable to Experiment. If one Diameter be double the other, the Water flowing out of the last is found more than a Fourth of that out of the other. But this must be owing to some accidental irregularities in making the Experiments.

Wallis ascribes it principally to this, that the Column of Water in the greater Tube, is greater by the same Quantity that is less than the Sides or Parities of the Veil: For the Water, in its Efflux forms a kind of Cavity over the Aperture; that Part immediately over it being evaporated first, and the other Water falling down from thence to the Sides to supply it. Now, this Cavity, or Diminution of Attitude being greater in the greater Tube, than the less; hence the Preassure or Endavour to pass out, becomes proportionably less in the greater Tube.

5a If the Apertures E and F of two Tubes A B and C D (Fig. 12) be equal, the Quantities of Water discharged in the same time are as the Velocities.

Note: The Terms Fluid and Water, are here used according to their usual signification; whereas in other Places it is made more accurate, than that they mean the Sides or Parities of the Veil: For the Water, in its Efflux forms a kind of Cavity over the Aperture; that Part immediately over it being evaporated first, and the other Water falling down from thence to the Sides to supply it.