horn being previouſly cut into plates of a proper ſize. Plu­mier informs us, in his *Art de Tourner,* that two plates are likewiſe united into one by heating and preſſing them ; the edges being thoroughly cleaned, and made to sit cloſe to one another. The tortoiſe-ſhell is conveniently heated for this purpoſe by applying a hot iron above and beneath the juncture, with the interpolation of a wet cloth to prevent the ſhell from being scorched by the irons : theſe irons ſhould be pretty thick, that they may not loſe their heat before the union is effected. Both tortoiſe-ſhell and horns may be ſtained of a variety of colours, by means of the colouring drugs commonly uſed in dyeing, and by certain metallic ſolutions.

TORTURE, a violent pain inflicted on perſons to force them to confeſſs the crimes laid to their charge, or as a pu­niſhment for crimes committed.

Torture was never permitted among the Romans except in the examination of slaves : it would therefore appear, that it was a general opinion among them, that a ſlave had ſuch a tendency to falſehood, that the truth could only be ex­torted from him. To the diſgrace oſ the profeſſors of Chriſtianity, torture was long practiſed by thoſe who called them­ſelves Catholics, againſt thoſe whom they termed *heretics ;* that is, thoſe who differed in opinion from themſelves. Find­ing that they could not bring over others to adopt their ſentiments by the force of argument, they judge it proper to compel them by the force of puniſhment. This practice was very general among orthodox Chriſtians, but especially among Roman Catholics. See Inquisition.

By the law of England, torture was at one period em­ployed to compel thoſe criminals who ſtood obſtinately mute when brought to trial, and refuſed either to plead guilty or not guilty ; but it is now aboliſhed (see Arraignment, Rack). A hiſtory of the machines which have been in­vented to torture men, and an account of the inſtances in which theſe have been employed, would exhibit a dismal picture of the human character.

TORUS, in architecture, a large round moulding uſed in the bases of columns. See Plate XXXVIII. fig. 3.

TOUCAN, in ichthyology. See Rhamphastos.

TOUCH-needle, among aſſayers, refiners, &c. little bars of gold, silver, and copper, combined together, in all the different proportions and degrees oſ mixture ; the uſe of which is to discover the degree of purity of any piece of gold or silver, by comparing the mark it leaves on the touch­ſtone with thoſe of the bars.

The metals uſually tried by the touch-ſtone are gold, ſilver, and copper, either pure, or mixed with one another in different degrees and proportions, by fuſion. In order to find out the purity or quantity of baſer metal in theſe vari­ous admixtures, when they are to be examined they are com­pared with theſe needles, which are mixed in a known pro­portion, and prepared for this uſe. The metals of theſe needles, both pure and mixed, are all made into laminæ or plates, one-twelfth of an inch broad, and of a fourth part of their breadth in thickneſs, and an inch and half long ; theſe being thus prepared, you are to engrave on each a mark in­dicating its purity, or the nature and quantity of the ad­mixture in it. The black rough marbles, the baſaltes, or the ſofter kinds of black pebbles, are the moſt proper for touch-ſtones.

The method of uſing the needles and ſtone is this : The piece of metal to be tried ought firſt to be wiped well with a clean towel or piece of ſoft leather, that you may the bet­ter ſee its true colour ; for from this alone an experienced perſon will, in ſome degree, judge beforehand what the principal metal is, and how and with what debaſed.

Then chooſe a convenient, not over large, part of the ſurface of the metal, and rub it ſeveral times very hardly and ſtrongly againſt the touch-ſtone, that in caſe a deceitful coat or cruſt ſhould have been laid upon it, it may be worn off by that friction : this, however, is more readily done by a grindſtone or ſmall file. Then wipe a flat and very clean part or the tonchſtone, and rub againſt it, over and over, the just mentioned part of the ſurface oſ the piece of metal, till you have, on the flat ſurface of the ſtone, a thin metal­lic cruſt, an inch long, and about an eighth of an inch broad: this done, look out the needle that ſeems moſt like to the metal under trial, wipe the lower part of this needle very clean, and then rub it againſt the touchſtone, as you did the metal, by the side of the other line, and in a direction parallel to it.

When this is done, if you find no difference between the colours of the two marks made by your needle and the me­tal under trial, you may with great probability pronounce that metal and your needle to be of the ſame alloy, which is immediately known by the mark engraved on your needle. But if you find a difference between the colour of the mark given by the metal, and that by the needle you have tried, chooſe out another needle, either of a darker or lighter co­lour than the former, as the difference of the tinge on the touchſtone directs ; and by one or more trials of this kind you will be able to determine which of your needles the metal anſwers, and thence what alloy it is of, by the mark of the needle ; or elſe you will find that the alloy is extraor­dinary, and not to be determined by the companion of your needles.

Touch*-Stοηe,* a black, ſmooth, gloſſy ſtone, uſed to exa­mine the purity of metals. The ancients called it *lapis Ly­dius,* the Lydian ſtone, from the name of the country whence it was originally brought.

Any piece of pebble or black flint will anſwer the purpoſes of the beſt lapis lydius of Aſia. Even a piece of glaſs made rough with emery is uſed with ſucceſs, to diſtinguiſh true gold from ſuch as is counterfeit ; both by the metallic colour and the test of aquafortis. The true touch­ſtone is of a black colour, and is met with in ſeveral parts of Sweden. See Trapp.

TOUCHWOOD, See Boletus.

TOULON, a celebrated city and ſeaport of France, in that part of the late province of Provence which is now de­nominated the department of the V*ar.* It is a very ancient place, having been founded, according to the common opi­nion, by a Roman general. It is the chief town of the de­partment, and before the great revolution in 1789 was an epiſcopal ſee. The inhabitants are computed at 80,000. It is divided into the Old Quarter and the New Quarter. The firſt, which is very ill built, has nothing remarkable in it but the *Rue aux Arbres,* the Tree Street, which is a kind of courſe or mall, and the town-house ; the gate of this is ſurrounded by a balcony, which is ſupported by two ter­mini, the maſterpieces of the famous Pujet. The New Quarter, which forms as it were a ſecond city, contains, beſide the magnificent works conſtructed in the reign of Louis XIV. many fine houſes (among which that of the late ſeminary merits beyond companion the preference) and a grand oblong ſquare, lined with trees, and ſerving as a parade.

The Merchants Haven, along which extends a noble quay, on which ſtands the townhouſe, is protected by two moles, begun by Henry IV. The New Haven was con­ſtructed by Louis XIV. as were the fortifications of the city. In the front or this haven is an arſenal, containing all the places neceſſary for the conſtruction and sitting out of veſſels : the firſt object that appears is a rope-walk, entirely arched, extending as far as the eye can reach, and built aſk