to each arm, acting in oppoſite directions. Thus the centre became the neutral point, and the reſiſtance to twiſt was found to be 2/3ds of the ſimple lateral ſtrength.

We beg leave to mention here that our ſucceſs in theſe experiments encouraged us to extend them much farther. We hoped by theſe means to diſcover the absolute coheſion of many ſubſtances, which would have required an enormous ap­paratus and a moſt unmanageable force to tear them aſunder directly. But we could reaſon with confidence from the reſiſtance to twiſt (which we could eaſily meaſure), provided that we could aſcertain the proportion of the direct and the lateral ſtrengths. Our experiments on chalk, finely pre­pared clay, and white bees-wax (of one melting and one temperature), were very conſiſtent and ſatisfactory. But we have hitherto found great irregularities in this propor­tion in bodies of a fibrous texture like timber. Theſe are the moſt important cases, and we ſtill hope to be able to accompliſh our project, and to give the public ſome valuable information. This being our ſole object, it was our duty to mention the method which promiſes ſucceſs, and thus excite others to the taſk ; and it will be no morti­fication to us to be deprived of the honour of being the firſt who thus adds to the ſtock of experimental knowledge.

When the matter of the axle is of the moſt ſimple tex­ture, ſuch as that of metals, we do not conceive that the length of the axle has any influence on the fracture. It is otherwiſe if it be of a fibrous texture like timber : the fibres are bent before breaking, being twisted into spirals like a cork-ſcrew. The length of the axle has ſomewhat of the influence of a lever in this caſe, and it is eaſier wrenched aſunder if long. Accordingly we have found it ſo; but we have not been able to reduce this influence to calculation.

Our readers are requeſted to accept of theſe endeavours to communicate information on this important and difficult ſubject. We are duly ſenſible of their imperfection, but flat­ter ourſelves that we have in many inſtances pointed out the method which muſt be purſued for improving our knowledge on this ſubject ; and we have given the Engliſh reader a more copious list of experiments on the ſtrength of materials than he will meet with in our lan­guage. Many uſeſul deductions might be made from theſe premiſes reſpecting the manner of diſpoſing and combi­ning the ſtrength of materials in our ſtructures. The best form of joints, mortiſes, tenons, ſcarphs ; the rules for jog­gling, tabling, faying, fiſhing, &c. practiſed in the delicate art of maſt-making, are all founded on this doctrine : but the diſcuſſion of theſe would be equivalent to writing a complete treatiſe of carpentry. We hope that this will be executed by ſome intelligent mechanician, for there is nothing in our language on this ſubject but what is almoſt contemptible ; yet there is no mechanic art that is more ſuſceptible of ſcientific treatment. Such a treatiſe, if well executed, could not fail of being well received by the pub­lic in this age of mechanical improvement.

STRENGTHENERS, or Corroborants, ſuch me­dicines as add to the bulk and firmneſs of the ſolids ; and ſuch are all agglutinant and aſtringent medicines. See Ma­teria Medica, p. 649. art. 6.

STRETCHING, in navigation, is generally underſtood to imply the progreſſion of a ſhip under a great ſurface of sail, when cloſe-hauled. The difference between this term and st*anding,* conſiſts apparently in the quantity of sail ; which in the latter may be very moderate ; but ſtretching generally ſignifies exceſs : as, we ſaw the enemy at day break ſtretching to the ſouthward under a croud of ſail, &c. *Falconer.*

STRETTO, in Italian muſic, is ſometimes uſed to ſignify that the meaſure is to be ſhort and conciſe, and conſequently quick. In this ſenſe it ſtands oppoſed to Largo.

STRIATED leaf, among botaniſts, one that has a number of longitudinal furrows on its ſurface.

STRIKE, a meaſure of capacity, containing four buſhels. Alſo an inſtrument uſed in meaſuring corn.

STRIX, the owl, in ornithology, a genus belonging to the order of *accipitres.* The bill is hooked, but has no cere or wax ; the noſtrils are covered with ſetaceous fea­thers ; the head is very large, as are alſo the ears and eyes ; and the tongue is bifid. There are 46 ſpecies ; the moſt remarkable are,

**1.** The *bubo,* or great-eared owl, in ſize is almoſt equal to an eagle. Irides bright yellow; head and whole body finely varied with lines, ſpots, and ſpecks of black, brown, cine­reous, and ferruginous. Wings long ; tail ſhort, marked with duſky bars. Legs thick, covered to the very end of the toes with a cloſe and full down of a teſtaceous colour. Claws great, much hooked, and duſky. — It has been ſhot in Scotland and in Yorkſhire. It inhabits inacceſſible rocks and desert places ; and preys on hares and feathered game. Its appearance in cities was deemed an unlucky omen ; Rome itſelf once underwent a luſtration becauſe one of them ſtrayed into the capitol. The ancients had them in the utmoſt abhorrence ; and thought them, like the ſcreech-owls, the meſſengers of death. Pliny ſtyles it *bubo funebris,* and *noctis monstrum.*

*Solaque culminibus* ferali *carmine* bubo

*Saepe queri et longas in fletum ducere voces.* Virgil. Perch’d on the roof, the bird of night complains,

In lengthen’d ſhrieks and dire funereal strains.

2. The *otus,* or long-eared owl, is found, though not frequently, in the north of England, in Cheſhire, and in Wales. Mr Haſſelquiſt ſaw it alive in Cairo, and it is not unfrequent all over Egypt. Its weight, according to Dr Latham, is nine ounces; the length 14 inches and a half ; the breadth 34 ; the irides are of a bright yellow ; the bill black ; the breaſt and belly are of a dull yellow, marked with ſlender brown ſtrokes pointing downwards; the thighs and vent feathers of the same colour, but unſpotted. The back and coverts of the wings are varied with deep brown and yellow; the quill-feathers of the ſame colour, but near the ends of the outmoſt is a broad bar of red; the tail is marked with duſky and reddiſh bars, but beneath appears aſh-coloured ; the horns or ears are about an inch long, and conſiſt of six feathers variegated with yellow and black ; the feet are feathered down to the claws.

3. The brachyotos, or ſhort-eared owl, is 14 inches long; three feet broad; the head is ſmall and hawk-like ; the bill is duſky; weight 14 ounces; the circle of feathers that immediately ſurrounds the eyes is black ; the larger circle white, terminated with tawny and black ; the feathers on the head, back, and coverts of the wings, are brown, edged with pale dull yel­low ; the breaſt and belly are of the ſame colour, marked with a few long narrow ſtreaks of brown pointing down­wards ; the quill-ſeathers are duſky, barred with red ; the tail is of a very deep brown, adorned on each side of the ſhaft of the four middle feathers with a yellow circle which con­tains a brown ſpot ; the tip of the tail is white. The horns of this ſpecies are very ſmall, and each conſiſts of on­ly a single feather ; theſe it can raiſe or depress at pleaſure ; and in a dead bird are with difficulty diſcovered. This kind is ſcarcer than the former ; both are ſolitary birds, avoiding inhabited places. Theſe ſpecies may be called *long-winged owls ;* the wings when cloſed reaching beyond the end of the tail ; whereas in the common kinds they fall ſhort of it.—This is a bird of paſſage, and has been obſerved to visit Lincolnſhire in the beginning of October, and