other quills put into each other, as there ſhall be occaſion, insert them into one another. Then slip the running knots, and immediately the blood runs through the quills as through an artery, very impetuouſly. As the blood runs into the dog, unſtop the quill in the upper part of his jugular, for his own blood to run out at, though not constantly, but as you perceive him able to bear it, till the other dog begins to cry and faint, and at laſt die. *Laflly,* take both quills out of the jugular, tie the running knot faſt, and cut the vein aſunder, and ſew up the ſkin : the dog, thus diſmiſſed, will run away as if nothing ailed him.

In the Philoſophical Transactions we have accounts of the ſuccess of various transfuſions practiſed at London, Paris, in Italy, &c. Sir Edmund King transfuſed forty- nine ounces of blood out of a calf into a ſheep ; the ſheep, after the operation, appearing as well and as ſtrong as be­fore.

M. Denis transfuſed the blood of three calves into three dogs, which all continued brisk, and eat as well as before. The ſame person transfuſed the blood of four wethers into a horſe twenty-ſix years old, which thence received much strength, and a more than ordinary appetite.

Soon after this operation was introduced at Paris, *viz.* in 1667 and 1668, Μ. Denis performed it on five hu­man ſubjects, two of whom recovered of diſorders under which they laboured, one being in perfect health ſuffered no inconvenience from it ; and two perſons who were ill, and ſubmitted to the operation, died : in conſequence of which the magiſtrates issued a ſentence, prohibiting the transfuſion on human bodies under pain of impriſonment.

Mr John Hunter, we are told, made many ingenious ex­periments to determine the effects of transfusing blood, ſome of which are ſufficient to attract attention. But whether ſuch experiments can ever be made with ſafety on the human body, is a point not eaſily determined. They might be allowed in desperate caſes proceeding from a corruption of the blood, from poiſon, &c. as in hydrophobia.

TRANSIT, from *transit,* “ it passes over,” signifies the passage of any planet over the ſun, moon, or ſtars.

TRANSITION, the passage of any thing from one place to another.

Transition, in oratory. See Oratory, n⁰ 39.

TRANSITIVE, in grammar, an epithet applied to ſuch verbs as ſignify an action which passes from the ſubject that does it, to or upon another subject which receives it. Under the head of verbs tranſitive come what we uſually call *verbs active* and *passive ;* other verbs, whoſe action does not paſs out of themſelves, are called *neuters.*

TRANSLATION, the act of transferring or removing a thing from one place to another ; as we ſay, the tranſlation of a biſhop’s ſee, a council, a ſeat of juſtice, &c.

Translation is allo uſed for the version of a book or writing out of one language into another.

The principles of tranſlation have been clearly and ac­curately laid down by Dr Campbell of Aberdeen in his inva­luable Preliminary Diſſertations to his excellent tranſlations of the goſpels. The fundamental rules which he eſtabliſhes are three : 1. That the tranſlation ſhould give a complete tranſcript of the ideas of the original. 2. That the ſtyle and manner of the original ſhould be preſerved in the tranſlation. 3. That the tranſlation ſhould have all the eaſe of original composition. The rules deducible from theſe general Jaws are explained and illuſtrated with much judgment and taſte, in a late essay on the Principles of Tranſlation, by Mr Tytler, judge-advocate of Scotland.

TRANSMARINE, ſomething that comes from or be­longs to the parts beyond ſea.

TRANSMIGRATION, the removal or tranſlation of a whole people into another country, by the power of a con­queror.

Transmigration is particularly uſed for the paſſage of the ſoul out of one body into another. See Metempsy­chosis.

TRANSMUTATION, the act of changing one ſubſtance into another.

Nature, ſays Sir Iſaac Newton, is delighted with tranſmutation : water, which is a fluid, volatile, taſteleſs, ſalt, is, by heat, tranſmuted into vapour, which is a kind of air ; and by cold into ice, which is a cold, tranſparent, brittle ſtone, eaſily dissolvable ; and this ſtone is convertible again into water by heat, as vapour is by cold.—Earth, by heat, becomes fire, and, by cold, is turned into earth again : denſe bodies, by fermentation, are rarefied into various kinds of air ; and that air, by fermentation alſo, and sometimes without it, reverts into gross bodies. All bodies, beaſts, fiſhes, infects, plants, &c. with all their various parts, grow and increaſe out of water and aqueous and ſaline tinctures ; and, by putrefaction, all of them revert into water, or an aqueous liquor again.

Transmutation, in alchemy, denotes the act of chan­ging imperfect metals into gold or ſilver. This is alſo called the *grand operation* ; and, they ſay, it is to be effected with the philoſopher’s ſtone.

The trick of tranſmuting cinnabar into ſilver is thus : the cinnabar, being bruited groſsly, is ſtratified in a crucible with granulated ſilver, and the crucible placed in a great fire ; and, after due time for calcination, taken off ; then the matter, being poured out, is found to be cinnabar turn­ed into real ſilver, though the ſilver grains appear in the ſame number and form as when they were put into the cru­cible ; but the miſchief is, coming to handle the grains of ſilver, you find them nothing but light friable bladders, which will crumble to pieces between the fingers.

The tranſmutability of water into earth ſeems to have been believed by Mr Boyle; and Biſhop Watſon thinks that it has not yet been diſproved. See his *Chemical Essays.*

*Transmutation of Acids.* See Chemistry-Oil. *Transmutation of Metals.* See Chemistry*-Index.*

TRANSOM, among builders, denotes the piece that is framed acroſs a double-light window.

TRANSOMS, in a ſhip, certain beams or timbers ex­tended acroſs the ſternpoſt of a ſhip, to fortify her afterpart, and give it the figure moſt ſuitable to the ſervice for which ſhe is calculated.

TRANSPARENCY, in phyſics, a quality in certain bodies, whereby they give paſſage to the rays of light ; in contradiſtinction to opacity, or that quality of bodies which renders them impervious to the rays of light.

It has been generally ſuppoſed by philoſophers, that tranſ­parent bodies have their pores diſpoſed in ſtraight lines, by which means the rays of light have an opportunity of pene­trating them in all directions ; but ſome experiments in electricity have made it apparent, that by the action of this fluid the moſt opaque bodies, ſuch as ſulphur, pitch, and sealing-wax, may be rendered tranſparent as glaſs, while yet we cannot ſuppoſe the direction of their pores to be any­way altered from what it originally was (ſee Electricity, n⁰ 4.) A curious inſtance of an increaſe of tranſparency we have in rubbing a piece of white paper over one that has been written upon or printed : while the white paper is at rest, the writing or print will perhaps ſcarce appear through it ; but when in motion, will be very eaſily legible, and continue ſo till the motion is discontinued.

TRANSPOSITION, in grammar, a diſturbing or diſlo-