SHIP-BUILDING, or Naval Architecture, is the art of conſtructing a ſhip ſo as to anſwer a particular purpoſe either of war or merchandiſe.

To whom the world is indebtedfor the invention of ſhips, is, like all other things of equal antiquity, uncertain.

A very ſmall portion of art or contrivance was ſeen in the first ſhips : they were neither ſtrong nor durable; but conſiſted only of a few planks laid together, with­out beauty or ornament, and juſt so compacted as to keep out the water. In ſome places they were only the hulks or ſtocks of trees hollowed, and then conſiſted only of one piece of timber. Nor was wood alone ap­plied to this uſe ; but any other buoyant materials, as the Egyptian reed papyrus ; or leather, of which the primitive ſhips were frequently compoſed ; the bottom and ſides being extended on a frame of thin battens or ſcantlings, of flexible wood, or begirt with wickers, ſuch as we have frequently beheld amongſt the Ameri­can ſavages. In this manner they were often navigated upon the rivers of Ethiopia, Egypt, and Sabæan Arabia, even in latter times. But in the ſirſt of them, we find no mention of any thing but leather or hides ſewed to­gether. In a veſſel of this kind, Dardanus ſecured his retreat to the country afterwards called *Troas,* when he was compelled by a terrible deluge to forſake his former habitation of Samothrace- According to Virgil, Cha­ron’s infernal boat was of the ſame compoſition.

But as the other arts extended their influence, naval architecture likewiſe began to emerge from the gloom of ignorance and barbariſm ; and as the ſhips of thoſe ages were increaſed in bulk, and better proportioned for commerce, the appearance of thoſe floating citadels of uuuſual form, full of living men, flying with ſeemingly expanded wings over the ſurface of the untravelled ocean, ſtruck the ignorant people with terror and aſtonilhment: and hence, as we are told by Ariſtophanes, aroſe the fable of Perſeus flying to the Gorgons, who was actu­ally carried thither in a ſhip ! Hence, in all probability, the famous ſtory of Triptolemus riding on a winged dragon is deduced, only becauſe he failed from Athens, in the time of a great dearth, to a more plentiful country, to ſupply the neceſſities of his people. The fiction of the ſſying horſe Pegaſus may be joined with theſe, who, as ſeveral mythologiſts report, was nothing but a ſhip with fails, and thence ſaid to be the offspring of Nep­tune the ſovereign of the ſea ; nor does there appear any other foundation for the ſtories of griffins, or of ſhips transformed into birds and fiſhes, which we ſo often meet with in the ancient poets. So acceptable to the ſirſt ages of the world were inventions of this nature, that whoever made any improvements in navigation or naval architecture, building new ſhips better fitted for ſtrength or ſwiftneſs than thoſe uſed before, or rendered the old more commodious by additional contrivances, or diſcovered countries unknown to former travellers, were thought worthy of the greateſt honours, and often aſſociated into the number of their deified heroes. Hence we have in aſtronomy the ſigns of Aries and Taurus, which were no other than two ſhips ; the former transported Phryxus from Greece to Colchos, and the lat­ter Europa from Phoenicia to Crete. Argo, Pegaſus, and Perſeus, were likewiſe new ſhips of a different fort from the former, which being greatly admired by the barbarous and uninſtructed people of thoſe times, were tranſlated amongſt the ſtars, in commemoration of their inventors, and metamorphoſed into constellations by the poets of their own and of ſucceeding ages.

The chief parts, of which ſhips anciently conſiſted, were three, viz. the belly, the prow, and the ſtern: theſe were again compoſed of other ſmaller parts, which ſhall be briefly deſcribed in their order. In the deſcription, we chiefly follow Scheffer, who hath ſo eopiouſly treat­ed this ſubject, and with ſuch induſtry and learning col­lected whatever is neceſſary to illuſtrate it, that very little room is left for enlargement by thoſe who incline to purſue this inveſtigation.

I. In the belly, or middle part of the ſhip, there was τpo∙∏-ifj *carina,* or the “ keel,” which was compoſed of wood : it was placed at the bottom of the ſhip, being deſigned to cut and glide through the waves, and there­fore was not broad, but narrow and ſharp ; whence it may be perceived that not all ſhips, but only the which ſhips of war were called, whoſe bellies were ſtraight and of a ſmall circumference, were provided with keels, the reft having uſually flat bottoms. Around the outſide of the keel were fixed pieces of wood, to pre­vent it from being damaged when the ſhip was ſirſt: launched into the water, or afterwards ſtruck on any. rocks ; theſe were called γfλtuσ∙gαrαj in Eatin *cunei.*

Next to the keel was *tll\*m∣* the “ pump-well, or well room,” within which was contained the χvrλ<ov, or “ pump ;” through which water was conveyed out of the ſhip.

After this, there was *'i vτ∣pa τp>>tr∣ς,* or the “ second keel,” ſomewhat reſembling what is now called the *kelſon ;* it was placed beneath the pump, and called λfσfrv, ^αλx,t,wf, κλοτ«σοί«»; by ſome it is falſely ſupposed to be the ſame with 1≈λ×'f.

Above the pump was an hollow place, called by He­rodotus οιλ» τwf »Mi, by Pollux xuroexand yαs^pα, becauſe large and capacious, after the form of a belly ; by the Latins, *testudo.* This was formed by crooked ribs, with which it was ſurrounded, which were pieces of wood riſing from the keel upwards, and called by Heſychius and by others, tiχo'λ<α, the belly of the ſhip be­ing contained within them: in Latin, *costae;* and in English, *timbers.* Upon theſe were placed certain planks.

which Ariſtophanes calls *uτtpmui(,* or fvτtpwvrtα

The ®xfup«i, *latera,* or “ ſides” of the ſhip, encom- paffed all the former parts on both hands ; theſe were compoſed of large rafters extended from prow to ſtern, and called *ζarχpιs,* and *ζωμια^χτα.,* becauſe by them the whole fabric was begirt or ſurrounded.

In both theſe ſides the rowers had their places, call­ed τo(jχo and £ 3ωλ<«, in Latin *ſori* and *tranflra,* placed above one another ; the loweſt was called 3∙αλκiuoi∙j and thoſe that laboured therein the middle, C">α,

and the men CυZ'0< ;. the uppermost whence the