

direction and then studying how such modes or methods could be improved on. That heavy weights for instance can be raised, we have the proof around us in the pyramids, in the obelisks, in the mighty works of antiquity. It would then be sheer loss of time to set to work again to reinvent the inclined plane, the wedge and screw, the lever, pulley and axle, the anti-friction roller. It would behoove us therefore to study up and see what lore were stored up for us, ready made, in museums and in books.

Man has been largely indebted to nature in his discoveries and inventions: how did Noah build the ark but in imitation of the ribbed structure of the human frame or of that of birds and quadrupeds in general. Where can you have a closer resemblance than between the hull of a vessel of our day and the chest or thorax of vertebrates, where the keel and keelson confining the cross ties between them as they do, are the back bone of the structure, the vertebral column, the ribs hinged to them—the breast bone or sternum as in man, the confining deck or whale back; or reverse the skeleton as in the goose, with the breast bone for the bottom of the vessel, the projecting spine or web the keel, the yacht slip keel of the present day, the back bone in turn the deck, the ribs the sides, the flesh and skin the planking or outer sheathing.

Again, is it at all likely that man would ever have dreamed of making up a ball or the semblance of such a figure too vast to be cut bodily from the solid — a dome for instance, a balloon, an imitation of the terrestrial sphere, of component angularities traced from and meeting at the centre or at the poles, had he never seen the suggestive melon of the thus ribbed type or had the inner structure of the orange, the very poetry of geometrical conception not been revealed to his wondering and delighted contemplation.

And why not then apply this process to any other matter of enquiry: the study of a language or aught else. Go we back then to the beginning of the world, or after God created Adam and what are we to infer from holy writ, but that the almighty spirit so stored Adam's mind with words — as He had provided him with all else that was required to minister unto his material requirements of food, and dress and shelter. Yes, and God commanded him that he should give unto every thing a name.

Adam had not then learned to spell, he had no alphabet, no written alphabet, no phonetic set of elements or signs; nor did he require such for spoken language; but he possessed within him the phonetic elements, the simple alphabetic sounds and utterances, or the faculty to utter them, many of which are of themselves and in whatever language, as to day in our own, expressive of numerous things as *a* an article or one of any thing, *aye-aye* — affirmative — *e, he* — *I, i*, myself, *eye* the organ of vision — *o-oh* excl., *owe* or to *owe* — *U*, you, yourself, *ewe* the female sheep, *yew* a tree and others: consonants for instance which not generally expressive of themselves, can