

plished in *space*, by any method we are yet acquainted with, so that our means of subdividing space are much inferior in precision. The beautiful principle of repetition, invented by Borda, offers the nearest approach to it, but cannot be said to be absolutely free from the source of error in question. The method of "double weighing," which we owe to the same distinguished observer, affords an instance of the direct comparison of two equal weights independent of almost every source of error which can affect the comparison of one object with another. It has been remarked by Biot, that, previous to the invention of this elegant method, instruments afforded no perfect means of ascertaining the weight of a body.

(123.) But it is not enough to possess a standard of this abstract kind: a real material measure must be constructed, and exact copies of it taken. This, however, is not very difficult; the great difficulty is to preserve it unaltered from age to age; for unless we transmit to posterity the units of our measurements, *such as we have ourselves used them*, we, in fact, only half bequeath to them our observations. This is a point too much lost sight of, and it were much to be wished that some direct provision for so important an object were made.*

In chemistry, in determining the standard atomic weights of bodies, it seems easily and completely applicable, by a process which will suggest itself at once to every chemist, and seems the only thing wanting to place the exactness of chemical determinations on a par with astronomical measurements.

* Accurate and *perfectly* authentic copies of the yard and pound, executed in platina, and hermetically sealed in glass, should be deposited deep in the interior of the massive stone work of some great public building, whence they could only be rescued with a degree of difficulty sufficient to preclude their being disturbed unless on some very high and urgent occasion. The fact should be publicly recorded, and its memory preserved by an inscription. Indeed, how much valuable and useful information of the actual existing state of arts and knowledge at any period might be transmitted to posterity in a distinct, tangible, and imperishable form, if, instead of the absurd and useless deposition of a few coins and medals under the foundations of buildings, specimens of ingenious implements, or condensed statements of scientific truths, or processes in arts and manufactures, were substituted! Will books infallibly preserve to a remote posterity all that we may desire should be hereafter known of ourselves and our discoveries, or all that posterity would wish to know? and may not a useless ceremony be thus transform-