

CHAPTER IV.

Of the Law of Inverse Variation of Extension and Intension.

Section 166. In a series of terms which fall under one another, as the extension decreases, the intension increases, and vice versâ. Take for instance the following series--

Thing
|
Substance
|
Matter
|
Organism
|
Animal
|
Vertebrate
|
Mammal
|
Ruminant
|
Sheep
|
This sheep.

Here the term at the top possesses the widest possible extension, since it applies to everything. But at the same time it possesses the least possible amount of intension, implying nothing more than mere existence, whether in fact or thought. On the other hand, the term at the bottom possesses the greatest amount of intension, since it implies all the attributes of, an individual superadded to those of the class to which it belongs: but its extension is the narrowest possible, being limited to one thing.

Section 167. At each step in the descent from the term at the top, which is called the 'Summum genus,' to the individual, we decrease the extension by increasing the intension. Thus by adding on to the bare notion of a thing the idea of independent existence, we descend to the term 'substance,' This process is known as Determination, or Specialisation.

Section 168. Again, by withdrawing our attention from the individual

characteristics of a particular sheep, and fixing it upon those which are common to it with other animals of the same kind, we arrive at the common term, 'sheep.' Here we have increased the extension by decreasing the intension. This process is known as Generalisation.

Section 169. Generalisation implies abstraction, but we may have abstraction without generalisation.

Section 170. The following example is useful, as illustrating to the eye how a decrease of extension is accompanied by an increase of intension. At each step of the descent here we visibly tack on a fresh attribute. [Footnote: This example is borrowed from Professor Jevons.]

Ship
|
Steam-ship
|
Screw steam-ship
|
Iron screw steam-ship
|
British iron screw steam-ship.

Could we see the classes denoted by the names the pyramid would be exactly inverted.

Section 171. The law of inverse variation of extension and intension must of course be confined to the inter-relations of a series of terms of which each can be predicated of the other until we arrive at the bottom of the scale. It is not meant to apply to the extension and intension of the same term. The increase of population does not add to the meaning of 'baby.'