Chapter III.

Of Naming, As Subsidiary To Induction.

§ 1. It does not belong to the present undertaking to dwell on the importance of language as a medium of human intercourse, whether for purposes of sympathy or of information. Nor does our design admit of more than a passing allusion to that great property of names, on which their functions as an intellectual instrument are, in reality, ultimately dependent; their potency as a means of forming, and of riveting, associations among our other ideas; a subject on which an able thinker(210) has thus written:

"Names are impressions of sense, and as such take the strongest hold on the mind, and of all other impressions can be most easily recalled and retained in view. They therefore serve to give a point of attachment to all the more volatile objects of thought and feeling. Impressions that when passed might be dissipated forever, are, by their connection with language, always within reach. Thoughts, of themselves, are perpetually slipping out of the field of immediate mental vision; but the name abides with us, and the utterance of it restores them in a moment. Words are the custodiers of every product of mind less impressive than themselves. All extensions of human knowledge, all new generalizations, are fixed and spread, even unintentionally, by the use of words. The child growing up learns, along with the vocables of his mother-tongue, that things which he would have believed to be different are, in important points, the same. Without any formal instruction, the language in which we grow up teaches us all the common philosophy of the age. It directs us to observe and know things which we should have overlooked; it supplies us with classifications ready made, by which things are arranged (as far as the light of by-gone generations admits) with the objects to which they bear the greatest total resemblance. The number of general names in a language, and the degree of generality of those names, afford a test of the knowledge of the era, and of the intellectual insight which is the birthright of any one born into it."

It is not, however, of the functions of Names, considered generally, that we have here to treat, but only of the manner and degree in which they are directly instrumental to the investigation of truth; in other words, to the process of induction.

§ 2. Observation and Abstraction, the operations which formed the subject of the two foregoing chapters, are conditions indispensable to induction; there can be no induction where they are not. It has been imagined that Naming is also a condition equally indispensable. There are thinkers who have held that language is not solely, according to a phrase generally current, *an* instrument of thought, but *the* instrument; that names, or something equivalent to them, some species of artificial signs, are necessary to reasoning; that there could be no inference, and consequently no induction, without them. But if the nature of reasoning was correctly explained in the earlier part of the present work, this opinion must be held to be an exaggeration, though of an important truth. If reasoning be from particulars to particulars, and if it consist in recognizing one fact as a mark of another, or a mark of a mark of another, nothing is required to render reasoning possible, except senses and association; senses to perceive that two facts are conjoined; association, as the law by which one of those two facts raises up the idea of the other.(211) For these mental phenomena, as well as for the belief or expectation which follows, and by which we recognize as having taken place, or as about to take place, that of which we have perceived a mark, there is evidently no need of language. And this inference of one particular fact from another is a case of induction. It is of this sort of induction that brutes are capable; it is in this shape that uncultivated minds make almost all their inductions, and that we all do so in the cases in which familiar experience forces our conclusions upon us without any active process of inquiry on our part, and in which the belief or expectation follows the suggestion of the evidence with the promptitude and certainty of an instinct.(212)

§ 3. But though inference of an inductive character is possible without the use of signs, it could never, without them, be carried much beyond the very simple cases which we have just described, and which form, in all probability, the limit of the reasonings of those animals to whom conventional language is unknown. Without

language, or something equivalent to it, there could only be as much reasoning from experience as can take place without the aid of general propositions. Now, though in strictness we may reason from past experience to a fresh individual case without the intermediate stage of a general proposition, yet without general propositions we should seldom remember what past experience we have had, and scarcely ever what conclusions that experience will warrant. The division of the inductive process into two parts, the first ascertaining what is a mark of the given fact, the second whether in the new case that mark exists, is natural, and scientifically indispensable. It is, indeed, in a majority of cases, rendered necessary by mere distance of time. The experience by which we are to guide our judgments may be other people's experience, little of which can be communicated to us otherwise than by language; when it is our own, it is generally experience long past; unless, therefore, it were recorded by means of artificial signs, little of it (except in cases involving our intenser sensations or emotions, or the subjects of our daily and hourly contemplation) would be retained in the memory. It is hardly necessary to add, that when the inductive inference is of any but the most direct and obvious nature--when it requires several observations or experiments, in varying circumstances, and the comparison of one of these with another--it is impossible to proceed a step, without the artificial memory which words bestow. Without words, we should, if we had often seen A and B in immediate and obvious conjunction, expect B whenever we saw A; but to discover their conjunction when not obvious, or to determine whether it is really constant or only casual, and whether there is reason to expect it under any given change of circumstances, is a process far too complex to be performed without some contrivance to make our remembrance of our own mental operations accurate. Now, language is such a contrivance. When that instrument is called to our aid, the difficulty is reduced to that of making our remembrance of the meaning of words accurate. This being secured, whatever passes through our minds may be remembered accurately, by putting it carefully into words, and committing the words either to writing or to memory.

The function of Naming, and particularly of General Names, in Induction, may be recapitulated as follows. Every inductive inference which is good at all, is good for a whole class of cases; and, that the inference may have any better warrant of its correctness than the mere clinging together of two ideas, a process of experimentation and comparison is necessary; in which the whole class of cases must be brought to view, and some uniformity in the course of nature evolved and ascertained, since the existence of such a uniformity is required as a justification for drawing the inference in even a single case. This uniformity, therefore, may be ascertained once for all; and if, being ascertained, it can be remembered, it will serve as a formula for making, in particular cases, all such inferences as the previous experience will warrant. But we can only secure its being remembered, or give ourselves even a chance of carrying in our memory any considerable number of such uniformities, by registering them through the medium of permanent signs; which (being, from the nature of the case, signs not of an individual fact, but of a uniformity, that is, of an indefinite number of facts similar to one another) are general signs; universals; general names, and general propositions.

§ 4. And here I can not omit to notice an oversight committed by some eminent thinkers; who have said that the cause of our using general names is the infinite multitude of individual objects, which, making it impossible to have a name for each, compels us to make one name serve for many.

This is a very limited view of the function of general names. Even if there were a name for every individual object, we should require general names as much as we now do. Without them we could not express the result of a single comparison, nor record any one of the uniformities existing in nature; and should be hardly better off in respect to Induction than if we had no names at all. With none but names of individuals (or, in other words, proper names), we might, by pronouncing the name, suggest the idea of the object, but we could not assert any proposition; except the unmeaning ones formed by predicating two proper names one of another. It is only by means of general names that we can convey any information, predicate any attribute, even of an individual, much more of a class. Rigorously speaking, we could get on without any other general names than the abstract names of attributes; all our propositions might be of the form "such an individual object possesses such an attribute," or "such an attribute is always (or never) conjoined with such another attribute." In fact, however, mankind have always given general names to objects as well as attributes, and indeed before attributes: but the general names given to objects imply attributes, derive their whole meaning from attributes;

and are chiefly useful as the language by means of which we predicate the attributes which they connote.

It remains to be considered what principles are to be adhered to in giving general names, so that these names, and the general propositions in which they fill a place, may conduce most to the purposes of Induction.