

value, in the sense defined by Ehrenfels, is not to deny that value is objective, and has an absolute validity from any given point of view. And if once we recognise this, then again the great question comes to be—What is our point of view? This is the question, as it seems to me, that Ehrenfels has not sufficiently faced. If he had faced it, his treatment no doubt would have become metaphysical rather than psychological, and would have opened up fundamental problems that he has sought on the whole to avoid. But I venture to doubt whether, without facing such problems, there can either be an adequate theory of value or an adequate doctrine of Ethics.

Still, we have every reason to be thankful for what Ehrenfels has given us; and we shall have still more reason for gratitude if he goes on, as he seems to promise, to apply his theory of value to some practical problems of life, and especially to those of economics. For such a task his gifts and training would seem to fit him in a pre-eminent degree; and I for one shall look forward to this part of his work with the most eager anticipation.

J. S. MACKENZIE.

Aperçus de Taxinomie Générale. Par J. P. DURAND (DE GROS).
Paris: Félix Alcan, Editeur, 1899. Pp. 265.

To judge from the list of M. Durand's works, the earliest of which bears date 1866, he must be a veteran free-lance in the borderland between philosophy and biology. He describes himself in the book before us as *un vieux paysan aveyronnais courbé tout le jour sur sa charrue*; no doubt a pleasant exaggeration, which disposes us however to listen with attention to his views on the method of natural history.

The author has been strongly impressed by the neglect both of naturalists and of logicians to study the general types and laws of the methods of classification which Science attempts to apply. The "true," "rational" or "natural" system is the object, he urges, of endeavours which are riddled with incoherence because no clear understanding prevails as to its nature. M. Durand considers himself no more than a pioneer towards the establishment of a general science of classification.

The main argument is as follows:—

The elementary form of all classification is the series, which depends on the increase or decrease of some "variable". The nature of this variable determines the nature of the series, and in the abstract all series are reducible to certain types, which constitute the Taxinomic¹ Categories, and on each of which is founded a true Taxinomic Order. Of these Taxinomic Orders the author distinguishes four, his enumeration depending on an empirical review of the field.

¹ I observe that English writers prefer the spelling Taxonomy and Taxonomic. I follow M. Durand.

The first is the Order of Generality¹ or of Resemblance, otherwise called the metaphysical order, because its higher terms, if not all its terms, are theoretical or fictitious objects, and not actual things. It depends on the varying Resemblance between objects, and this Resemblance is in the ratio of the proportion of common characters which unite them. This Taxinomic Order is familiar to us in the relation between genera and species. M. Durand expounds it with extreme clearness, providing diagrams which represent the superposition of characters in each actual object as well as the coalescence of the common characters into ideal groupings or classes. The actual objects, he is careful to remind us, appear in the base line only, and not at all in the vertical succession. Strictly speaking, indeed, they are driven underground, and we work from the species upwards. It is to be noted—and the fact prepares us for reservations to be made below—that the author embodies in his account of this order the “inverse proportionality of extension and comprehension” in its sharpest form.

The second Taxinomic Order is the Order of Composition or Collectivity, which is founded on the relation of whole to part and part to whole. Its objects, higher and lower alike, are actual concrete objects, herein differing from those of the previous order. M. Durand holds that equivocation arises in Science and Philosophy by confusing three usages of the words general or universal; one belonging to the previous order, in which they represent the relation of a genus-idea to its species; and two belonging to the present order, in which they represent (*a*) the relation of the actual compound whole to its actual component parts (the “real comprehension” of a collective name, as the body is the universal of its members), and (*b*) the relation of “the part” in a homogeneous actual compound whole to the whole, as the cell is the general element of the body (the “real extension” of an element).

The juxtaposition of the relation of genera and species and the relation of whole and part is the suggestive side of the author's very sharp distinction between them—a distinction, it will be found, which he is not always able to maintain. From Lotze downwards a good deal has been done of late years to undermine the rule of inverse proportionality between extension and comprehension, and the modification of this rule affects the alleged unreality of the higher terms in generic generality, so as to open a bridge from connexion by resemblance, to connexion by determination in an actual whole,—from imitation to constructive co-operation. In the generic sense, M. Durand observes, “we may say of Humanity that it is present and entire in each of us; in the collective sense it is a totality”; and he finds analogous meanings in Animality. It is interesting to compare this with

¹ The term Generality will recur in a different sense in the account of another Order, and it would have been better to call this the Order of Generic Generality.

Lotze's remark¹ on "our habit of representing to ourselves the countless multitudes of mankind not merely as instances of their genus, but as parts of Humanity; in the case of animals the peculiar ethical reasons which bring this about are wanting, and we are not in the habit of speaking in the same sense of 'Animality'". The most faithful votary of formal Logic must be startled, I think, when he is told that Humanity, even as a nature or content, is "present and entire in each of us". The question arises whether we can have even our *generic* nature except as *parts* of a *whole*. The question of the reality and individuality of universals is underneath the entire discussion, and M. Durand has some shrewd remarks affecting it. Within the Order of Composition itself the Order of Resemblance appears in various degrees, and as it fades the co-operation of parts strengthens. M. Durand notes this point, but does not observe how the substitution of Identity for Resemblance would bear upon it. However, there is no doubt that a confusion is possible between the *prima facie* senses of generality as above distinguished, and M. Durand thinks that he has convicted both Litré and Bichat of errors in this sense.

The third Order is the Order of Hierarchy—the relation of rank between heads or centres of units, which are themselves related in order of Composition, as, in the Army, the Generalissimo to the Generals of Divisions. Passing from this, which seems to me unimportant, we come to the fourth type of series known as the Order of Genealogy and of Evolution, which depends on relations of kinship (*Parenté*), under the three species of Ascent, Descent and Collaterality. Like the Order of Composition and the Order of Hierarchy, the Order of Genealogy deals throughout and exclusively with the actual objects to be classified "which occupy and constitute without exception the *cadres* of the table of classification". In this point, as we have seen, there is *prima facie* an absolute difference between these three orders and the Order of Generic Generality. The chapter on the Genealogical Order ends by stating the question whether a first ancestor in the Genealogical Order can also be the genus of his descendants considered as species in the Generic Order. The provisional answer is that this may appear to be the case, but only through an equivocation by which the nature or content of the common ancestor is confused with his actual individuality. Passing over discussions of some interest we will now pursue this question as it is further treated in the chapter on Natural Classification.

The problem of Natural Classification on the Evolutionist hypothesis is here treated as = the problem of combining a "Generic" with a "Genealogical" Classification. If the genealogical facts could be represented by a progressive linear series of the type of the *chaîne des êtres*, a generic classification could be applied to this by simply dividing the series into segments of the greatest

¹ *Metaphysic*, p. 179, Engl. transl.

resemblance. Some such recurrence to an obsolete arrangement is imputed to Hæckel by the author in a passage of detailed criticism.¹

But the series is not linear. The organic form, which, in degree of evolution or organisation, might be the common ancestor of all living beings, coexists on the same genealogical level with the "higher" forms of life, as their remote cousin. If the classification is to be genealogical, such a form must appear in it at two extremes, as common ancestor, and as a collateral "uniplane" with existing forms.

Admitting thus, then, the facts of collateral kinship in their fullest extent, can we make a genealogical arrangement coincide with a generic classification? M. Durand does not deny the possibility *in toto*, but points out a number of difficulties.

i. The Ancestor's name, if it is to stand for a class, must imply an essential transmissible character; thus "Vegetable Monera" could not be a general name for all vegetable organisms.

ii. It is conceivable that the "essential" quality may fail—an Invertebrate species might spring from a Vertebrate one. The ancestor of the Reptiles could hardly be called by a name which would serve as a general name to include Birds. Regression, Convergence and the like, enhance this difficulty. It may be noted as to this that in any case the common ancestor in such a system must have his descendants' character read back into the meaning of his name, *i.e.*, must have a sense put upon his name which his given qualities do not bear out. A true view of connotation shows us this at once. To make the actual qualities of the animal Monera (calling it "Animal" *par excellence*) the universal of all the qualities of Animals, would be just like understanding the connotation of "Animal" to be the remainder, after all attributes in which animal species differ, such, for example, as intelligence, had been omitted.

iii. The author asks whether the generic name in a natural classification *does* always imply a single mother species; adducing such cases as the common character of the Greek dialects or the Slav languages. From the mere common character, he urges, we cannot tell whether we may infer an actual "absolute" Greek, or an actual individual "Slav" language; as respective common ancestor.

iv. By a sort of converse supposition to i., if the meaning of the actual common ancestor's name is confined to his given qualities, and nothing read back into them, then he will be very close to his

¹ Hæckel, I gather from M. Durand, shows a genealogical tree with its trunk divided into four vertical segments, each named after a general division of the animal world. He also gives a list of kinds in linear order. A list must be linear, and should be interpreted by the genealogical tree (see *e.g.* Lankester, art. Zoology in *Enc. Brit.*); but it is a question if the tree trunk can represent actual animal species (see below).

mother species and to his collaterals, and the great kingdoms of the living world will fail to be discriminated. *E.g.* the Primordial Monera, the Vegetable Monera and the Animal Monera, would appear as three but slightly differentiated species. If then their natures are construed as class ideas including their descendants, the whole animal and vegetable world would be brought within a single genus.

It appears to me that votaries of Natural Classification never make any real attempt, such as the author suggests, to combine genealogical and generic orders by erecting the names of common ancestors into names of kinds. And it seems plain that such an attempt would meet with the difficulty indicated above, and emphasised by Dr. Edward Caird in dealing with the evolution of religion, *viz.*, that by cutting down the essence of great class ideas to the actual given qualities of the least evolved species within them, all real grasp of their nature is sacrificed. On the other hand, to read into the names of undeveloped species the universal scheme of qualities which we have gathered from their higher descendants, seems to involve falsification of fact. It may be said, therefore, that to combine genealogy and generality, according to M. Durand's idea of the combination, is impossible. The trunk of the evolutionary tree must stand, as Huxley says, for a general plan of structure (*Enc. Brit.*, art. Evolution). But if so, in what part of such a diagram are the common ancestors represented? We have just seen the difficulty of supposing the trunk to represent *both* actual species *and* a common plan.

I do not think it results from what has been said that a generic classification, following the affinity of descent, is an illusion. It only results that the essence of such a classification cannot be expressed through proper or specific names strictly designative of common ancestors. It is plainly conceivable that the principle of heredity may be the true controlling universal, although in a given common ancestor its possibilities are not made explicit. No one who is familiar with a good natural classification will easily withdraw himself from the conviction that he is dealing in it with the differences of a true governing universal; and his belief will be confirmed rather than weakened by the fact which M. Durand emphasises, that the tendency of such classification is to go behind obvious similarities in looking for presumptions of affinity; to replace, as I should say, the superficial perception of resemblance by the analysis of identity in difference, pointing ultimately to the unity and differentiation of parts in a whole. In any case M. Durand's work is full of suggestions and remarkably lucid. Perhaps it is somewhat tinged with the idea that the laws of classification can be studied in advance, apart from the special investigation of the matter to be classified. This remark applies especially to the final chapter on the classification of the sciences.

BERNARD BOSANQUET.