MIND

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element in conscious action, and thus one of the main problems in the evolution of will in the race is untouched. Some of the writer's statements, moreover, seem to be at least doubtful, for example that wish and desire invariably have a recollection of pleasure as their starting-point. May one not desire simple relief from a present pain?

In the last issue of the *Revue* we have an article by E. von Hartmann on Schopenhauer and his disciple Frauenstädt, a short paper on Cerebral Localisation, by Dr. R. Lépine, a translation of two recent articles on Spiritualism and Materialism by Mr. G. H. Lewes, and a study of the Sources of Indian Philosophy by M. P. Regnaud. The first of these is likely to attract most notice among English readers, and is indeed not a little interesting. The writer twits Frauenstädt with his personal veneration for his master, owing to which he fails to see the inconsistencies and inadequateness of the latter's system. The article is very characteristic, especially in the policy of the endeavour to separate *Die Philosophie des Unbewussten* as far as possible from *Die Welt als Wille und Vorstellung.*

<div align="right">James Sully.</div>

X.—NOTES.

Logical Contraposition and Conversion.—On page 148 of MIND, the Editor proposes to resolve the inference,

<div align="center">All S is P,
∴ No not-P is S,</div>

into two steps, thus,

<div align="center">All S is P,
∴ No S is not-P,
∴ No not-P is S.</div>

To this I object on the ground that both steps of the latter process depend on a property of the negative which is not essential to the validity of the inference proposed to be resolved. In the universal negative proposition, *homo non est animal*, the *non* qualifies the copula. The meaning of this qualification must, however, be defined to be such that the proposition is equivalent to *homo est non animal*, taken in such a sense that the existence of a man is not asserted. We may, therefore, substitute for the forms of inference in question,

<div align="center">All S is P,
∴ All not-P is not-S;</div>

and

<div align="center">All S is P,
∴ All S is not-not-P,
∴ All not-P is not-S.</div>

The word *not* here has two properties. The first is that it is a relative term. To say that an animal is not a plant, is to say that it is *other than* every plant, just as we might say that it was *superior to*

every plant. The second property is that the relative term *not*, like *cousin of*, *similar to*, etc. is its own converse. Now the first inference does not depend on this second property since it is of a form which holds good for all relative terms whatever. Thus we may reason,

<div align="center">All negroes are men,
∴ Every lover of all men is a lover of all negroes.</div>

On the other hand both of the steps of the proposed resolution do depend on the convertible character of negation. C. S. Peirce.

[Mr. Peirce gets the contrapositive of All S is P without the double process of obversion and conversion, but does not, as far as I can see, impugn the validity of the double process. What he asserts I am far from denying, though I doubt whether his mode of treating the proposition is one that would in all cases be easily applied. The double process is always perfectly sure and simple. To obvert a proposition is to express it as negative if it is affirmative, as affirmative if it is negative: convert it in this obverse form, and then you have its contrapositive. It is interesting to note the consequence as regards the four typical propositions known to logicians as *A*, *E*, *I*, *O*. As every tyro knows, *A* is degraded in quantity when converted as it stands, and *O* cannot be converted at all; *E* and *I* alone get full justice in conversion. The scale is exactly redressed in contraposition: *E* becomes degraded in quantity, when converted in the obverse form, and *I* cannot be contraposed at all; on the contrary, *A* and *O* get full justice.

Mr. Peirce's objection, if objection it should be called, seems to be sufficiently met by saying that, since the word *not*, treated as a relative term, is its own correlative, one is at liberty to take account of that fact in dealing with the logic of affirmation and negation. The case would be different if one were setting up a logic of relation in general.

I would add that the scheme of associated theorems put forth in the new *Syllabus of Plane Geometry* (see MIND, I., p. 147) is to be found substantially in M. J. Delboeuf's remarkable work, *Prolégomènes Philosophiques de la Géométrie* (Liége, 1860) p. 88, and is there referred back to a work by Hauber, published in 1829. For the words *converse* and *obverse* as used with a special meaning in the *Syllabus*, M. Delboeuf says *inverse* and *reciprocal*—words which are far better as avoiding all confusion with the fixed sense of logical nomenclature.—Editor.]

The Uniformity of Nature.—Mr. Lewes's restatement of his position on this point, ingeniously put as it is, fails to convince me. I still find no real coherence between the links of the proffered argument, and I can only take refuge in the puzzled exclamation of Dionysus in the *Frogs*:—

<div align="center">εὖ νὴ τὸν Ἑρμῆν. ὅ τι λέγεις δ' οὐ μανθάνω.</div>

That which is, is; and That which will be, will be—these I do freely admit to be self-evident and identical propositions; but they