A FASCINATING MENTAL RECREATION
FOR THE YOUNG.

SYMBOLIC LOGIC.

BY

LEWIS CARROLL.

PART I. ELEMENTARY.

DEAR MADAM, OR SIR,

Any one, who has to superintend the education of
young people (say between 12 and 20 years of age), must
have realised the importance of supplying them with healthy
mental recreations, to occupy times when both brain and
muscles have done their fair share of work for the day. The
best possible resource, no doubt, is *reading;* and a taste for
reading is quite the most valuable acquirement you can give
to your pupil. But *variety* is essential, and many a boy or
girl is glad to exchange the merely *passive* enjoyment of read-
ing a book for something which will employ the *hands* as well
as the *eyes*, and which will call out some form of mental
activity. Under this heading may be reckoned such occupa-
tions as drawing, painting, &c., and sedentary games, such as
chess, backgammon, &c. : also (what many young people
keenly enjoy) the guessing of puzzles, which generally in-
volves a certain amount of *handiwork*. And all games and
puzzles (excepting of course *whist*) allow, and even encourage,
talking—which in itself is one of the best and healthiest of
mental recreations. Also many of them (and this is a most
valuable property) will only yield the *full* enjoyment, that is
to be got out of them, in return for a certain amount of *pains-
taking*. The chess-player, who has learned the true meaning

of "*whatsoever thy hand findeth to do, do it with thy might*," and who gives his full attention to the game, and tries to find the *best* solution for the problems that arise in it, will get *ten* times the enjoyment received by the languid, indolent player, who moves the pieces almost at random, and takes no interest whatever in winning or losing.

I claim, for Symbolic Logic, a very high place among recreations that have the nature of games or puzzles ; and I believe that any one, who will really *try* to understand it, will find it more interesting and more absorbing than most of the games or puzzles yet invented. The reading of the *book* about it is a *very* small part of the business : the *real* occupation and the *real* enjoyment come when the reader has gained the power of solving for himself the fascinating *problems* of the Science. And this power is far sooner, and far more easily, acquired in *Symbolic* Logic than it is in the Science as taught in the ordinary text-books.

The occupation, of solving such problems, furnishes keen and inexhaustible enjoyment, even for the *solitary* student. But a still greater amount of pleasure may be obtained, when two or three students, of tolerably equal powers, agree to work it *together*. It adds enormously to one's interest in such problems, to be able to *talk* them over with another ; and the help it gives, in getting one's own ideas *clear* on the subject, is simply invaluable.

Symbolic Logic has one *unique* feature, as compared with games and puzzles, which entitles it, I hold, to rank above them all. The accomplished backgammon-player has received, no doubt, a great deal of enjoyment, well worth the winning, in the process of making himself a good player; but, when that object is attained, it is of no *further* use to him, except for the one purpose of playing more games, and winning more victories, and possibly becoming the Champion-player for his town or county. Now the accomplished *Logician* has not only enjoyed himself, all the time he was working up to that position, fully as much as the Champion-player has done; but he finds himself, when that position is won, the holder of an "Open Sesame !" to an inexhaustible treasure-house of varied interests. He may apply his skill to any

and every subject of human thought : in every one of them it will help him to get *clear* ideas, to make *orderly* arrangement of his knowledge, and, more important than all, to detect and unravel the *fallacies* he will meet with in every subject he may interest himself in.

Among the popular ideas about Logic there are *three* special ones which have prevented its receiving anything like the attention which it deserves.

One is, that it is much too hard for average intellects ; that only the exceptionally-gifted can make anything of it ; and that it is *quite* beyond the reach of children.

Another is that even those, who *do* succeed in mastering its principles, find it hopelessly dry and uninteresting.

These two charges seem to dispose of its claim to be regarded as a *Recreation*. And if, abandoning this claim, it demands our attention as a *Science*, it must of course offer us something of practical *use*, to repay us for the trouble of studying it. And here comes in the *third* of these popular ideas, viz., that its results are absolutely and entirely *useless*.

The first two objections may fairly be urged, I think, against *Formal* Logic. Some of the text-books of this Science might almost have been composed with the benevolent intention of furnishing, for the eager minds of children, the *hardest* work that could be devised—giving the *maximum* of fatigue with the *minimum* of result. As compared with *Symbolic* Logic, it is much as if a schoolmaster were to close his cricket-ground, and erect a *treadmill* for his boys instead !

Think of some complicated algebraical problem, which, if worked out with x, y, z, would require the construction of several intricate simultaneous equations, including an ad-fected quadratic. Then imagine the misery of having to solve it in *words* only, and being forbidden the use of *symbols*. This will give you a very fair idea of the difference, in solving a Syllogism or Sorites, between the use of *Symbolic* Logic, and of *Formal* Logic as taught in the ordinary text-books.

As to the *first* popular idea—that Logic is much too hard for ordinary folk, and specially for children, I can only say that I have taught the method of Symbolic Logic to *many*

children, with entire success. They learn it easily, and take *real* interest in it. High-School girls take to it readily. I have had classes of such girls, and also of the *mistresses*, who are of course yet more interesting pupils to deal with. When your little boys, or little girls, can solve *Syllogisms*, I fancy they will be much more eager to have fresh *Pairs of Premisses* supplied them, than any *riddles* you can offer them !

As to Symbolic Logic being *dry*, and *uninteresting*, I can only say, *try* it ! I have amused myself with various scientific pursuits for some forty years, and have found none to rival it for sustained and entrancing attractiveness.

As to its being *useless*, I think I have already said enough.

This is, I believe, the very first attempt (with the exception of my own little book, *The Game of Logic*, published in 1886, a very incomplete performance) that has been made to *popularise* this fascinating subject. It has cost me *years* of hard work : but if it should prove, as I hope it may, to be of *real* service to the young, and to be taken up, in High Schools and in private families, as a valuable addition to their stock of healthful mental recreations, such a result would more than repay ten times the labour that I have expended on it.

Your obedient servant,

LEWIS CARROLL.

P.S.—The book is nearly all in type, and will, I *hope*, be ready for delivery by Christmas.

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