This brochure comes opportunely in more ways than one. To begin with, it is a vigorous piece of individual observation, which is precisely what is wanted to correct the common impression that the conclusions reached by a single observer—for example, Preyer—hold good of all infants. Binet, Baldwin and others have shown that this is not so: Mrs. Moore's monograph illustrates the diversity among infants still more fully. Some of her observations, indeed, deviate in a startling measure from those of her predecessors and call loudly for further "controlling" observations.

In the second place, this new record of infantile development illustrates, if I am not greatly mistaken, the dangers besetting the new path of child-observation. Women—and particularly mothers—are, as I have elsewhere urged, exceptionally well situated for carrying out a careful and continuous record of an infant's mental progress. On the other hand, the observation of the mental manifestations of an infant is especially difficult and is hardly possible save to one who has both undergone some methodical training in simpler kinds of observation and served a further term of apprenticeship as a student of psychology. How widely the untrained mother, knowing nothing of scientific responsibility, can go astray in this alluring region, has recently been illustrated in English literature. Mrs. Moore is by no means a mere dallier with infantile ways; she has a very real scientific interest in them. Her observations are often close and valuable: the aid which, as she tells us, she has received from her husband, a medical man, may have helped her here. But there is throughout a lamentable exhibition of insufficiency of psychological training. What is one to think of an observer who after telling us that she has drawn her greatest inspiration from the works of Professors Preyer and Wundt adds in a footnote that she has read "Die Seele des Kindes, translated and condensed by Miss Emma Marwedel and appended to her book Conscious Motherhood"? Why, one asks, did she not at least prepare herself by reading the very good translation of Preyer's work published by Messrs. Appleton? One would conjecture, from internal evidence, that Mrs. Moore has read hardly anything in child-psychology, save perhaps Dr. Tracy's bare epitome of its principal results, which is of course perfectly useless for learning the methods of the science. And so it results that, notwithstanding excellent opportunities, and one would say a good deal of natural shrewdness and even something of subtlety of insight, Mrs. Moore has produced a work which cannot compare in scientific value with the more modest, restricted but thoroughly informed and accurate study of Miss Shinn of the University of California.
A word or two on the faults of the work may suffice. The want of any clear logical order is simply appalling. This is seen at the outset in the classification (?) of movements. After setting forth a classification of her own (which by-the-bye sadly needs explanation) in which neither Reflex movements nor those of emotional expression occur, she afterwards nullifies her mode of grouping by bringing in under special sections these two sub-classes. "Inhibitory movements," again (by which she seems to be naming processes such as sensation which inhibit movements), come in later on under Hearing! Once more, imitative movements, though they are referred to more than once, do not appear in the classification. "Hearing" is the title both of a main section and of one of its sub-sections: similarly "Vision" is a sub-section under "Sight". It is a pity that Mrs. Moore did not give her MS. to some competent person who might at least have got rid of its utterly confused look.

The observations themselves have both defects and excellences. A glance will show how far Mrs. Moore is from the idea of a really continuous and methodical record, on the model of Preyer's monograph. The setting forth of a series of dates is deceptive: again and again gaps of weeks and even of months are at once noticeable in what is presented as a record of the "development" of some mental characteristic. Nor do the observations show the admirable scientific restraint and reticence which is surely nowhere more needed than in this field of investigation. On the contrary, Mrs. Moore too frequently gives vague statements of what occurred rather than precise statements of what was seen, and sometimes seems to mix observation proper and conjectural inference. This is the more surprising as the writer marks off a sub-section, "Interpretation," under most of her sections, though here again it is easy to see that the divisions of the subject are not adhered to. As an example of the intrusion of an element of interpretation into the record of observation I may quote the statement that "at seventy-five hours his (her boy's) eyes turned from one object to another" (p. 45), to which she adds, with something of naïveté, "the eyes were not in focus". Had the 'turnings,' one asks oneself, really anything to do with the 'objects'? This surely requires proof. One of the most remarkable of these omissions to distinguish observation proper from inferential interpretation occurs in the account of early attention. Will it be credited that an observer, who tells us that she has studied psychology, unhesitatingly maintains that because an infant, apparently in the first weeks, would gaze "at a patch of light or a moving object during a period varying from fifteen to thirty minutes" he evinces as much attention of a kind as an older child? It never seems to have occurred to the observer that his prolonged 'gazing,' so far from being close strenuous attention, as she assumes, was probably a kind of self-hypnotising. Nobody, least of all, one would say, an infant, can go on looking intently at one and the same visible
object for five minutes, leave alone fifteen or thirty. Observant teachers know well the 'gazing' of young eyes which, so far from meaning attention, points to dreamy distraction and vacancy. As Mrs. Moore herself reminds us immediately afterwards, an older child's prolonged act of attention is supported by "continual changes" which the child himself induces in the object.

Yet a student who felt repelled from Mrs. Moore's record by this and other illustrations of a want of the necessary scientific attitude of mind would lose much that is valuable. Many of the observations are new and interesting, and though they may have to be verified by other observers, they will certainly supply a new stimulus to child-study. I will rapidly go over some of the more important of these.

There is a good series of observations on the development of the thumb-sucking habit. The experiments, viz., incasing each of the thumbs alternately and tying up both, were carefully carried out, and the results tabulated. This is a really careful piece of work (pp. 12, 13). Interesting, too, are the observations on the early use of the feet as tactile organs, supplementary to the hands. In the twenty-sixth week, we are told, "they invariably supplemented the hands in feeling of (sic) objects, the hands grasped the object first, the feet then went up to feel of it. One hand, or one foot, rarely acted alone, though the movements were not symmetrical" (p. 17). Mrs. Moore hardly explains why she rejected her first supposition that this use of the feet was a rudimentary instinct. Later on (p. 79) she remarks that the lips and the tongue were the first organs of active touch, the hands coming next, and lastly the feet. Other careful observations have to do with automatic movements, by which seem to be understood unconscious movements during sleep. The writer treats of these as secondary automatic, that is, as movements that had been acquired during the waking state. Thus she notes that the child in the thirty-second week began to roll in his crib during sleep, having previously learned to roll on the floor (p. 36). A new observation, or rather sequence of observations, is forthcoming in the account of the early stages of voluntary movement (p. 23 ff.). On the fourth day the child if touched on the cheek turned his open mouth towards the side touched. This he could not do before. The explanation is that "each time that he was to be fed the child was laid in a certain position, and the nurse, taking his head between her hands, turned it slightly to one side in order to put his lips against the nipple". On the fourth day he had gone through this experience about thirty times. This explanation strikes me as exceedingly doubtful. The pressure of the nurse's hands ought surely to have set up, if it had set up anything, a tendency to a movement not towards, but away from the side touched. Nevertheless the suggestion that passive movements of head or limb induced by another may help to develop associated tendencies which are afterwards taken up into active
movement is a striking one, and should prompt to further investigation. There is a neat little account of the genesis of a gesture-movement, viz.: "a lateral chopping motion of one or both arms" which served as a sign of dismissal in the twentieth month. It was, we are told, at first an imitation of the mother's action in brushing away the flies which came round the food (p. 31). It would be interesting to know whether imitation often contributes in this way to a child's gesture-language. There are, further, some valuable observations on the first localisation of sounds. Although the boy, as the result of the parents' play-like experiments, proved that he could recognise the direction of sounds in the forty-eighth week, he could at the time have had hardly any aural perception of distance. This seems to be shown by the fact that six weeks later "in calling to a dog at some distance he scarcely raised his voice above a whisper" (pp. 66, 7). Apropos of the growth of the visual perception of distance it is noted that before the sixty-eighth week the boy had no perception of distance below his own level. It was only in the seventieth week that he learned to go down stairs (p. 110). This touches a neglected side of the visual perception of distance. As a last example I may take the observation of the first localisation of pain. This, according to Mrs. Moore, followed and depended on the localisation of dermal sensation. Internal pains are said to have been localised on the surface of the body, but here I suspect there is an opening for error in interpretation. Other points dealt with in a suggestive way are motor-reactions viewed as a measure of the intensity of sensations (p. 54) (Mrs. Moore rightly views motor-reactions as an element in perception, p. 59); the first appearance of "associations of similarity" (pp. 93, 4); and the slow process by which a child acquires the knowledge of so large and complex an object as the human figure (p. 99).

I hope that I may have succeeded in showing that Mrs. Moore's monograph, in spite of its defects, contains much that is at once readable and valuable. I am disposed to think that her boy was exceptional in more than one particular. In respect of early and what may be called sub-voluntary movement he was, if the observations are correctly interpreted, distinctly precocious; yet in other ways he strikes one as backward. When, for example, we are told that there was no connexion of ideas with words during the first year (p. 95), one must infer either that the boy was almost abnormally slow, or that 'words' here mean his own spoken words. The record of the child's language, which is very slight, bears out the conjecture that his intellectual development was tardy. A bird has been confused with a fly by other children, no doubt from want of a clear perception of distance; but the calling of a cow a bird—if the cow was anywhere near the child—seems to argue unusual want of discernment. Mrs. Moore ingenuously suggests that the extension to the cow of the name "bird" rather than of "dog" was the result of a temporary fondness for the
newly acquired word "bird" (p. 124). The passage is well worth reading as a good example of the writer's happy combination of observation and thought.

JAMES SULLY.


The reader of this work will be struck at the outset by the curious position which the author assigns to ethology. He places it between "experimental psychology" on the one side and "rational psychology" on the other (p. 1). Rational psychology considers "the origin, essence and destiny of the soul" (p. 2). It is purely "synthetic and disdaining the contingencies of terrestrial life"; while "experimental psychology" is "purely analytic" (p. 1). The author does not explain what he means by 'experimental psychology,' whether he takes it to include all psychology as ordinarily understood,—which is confined to "the contingencies of terrestrial life,"—nor what ground there is for supposing its method to be purely analytic. We have been accustomed to regard ethology, since Mill wrote his famous chapter in the Logic, as an applied psychology. This standpoint M. Paulhan has consistently maintained. M. Levy has not brought forward any reasons for showing that this view is incorrect, nor has he explained whether he dissents from it, nor what precise meaning can be attached to the position he assigns to ethology as falling between these two departments of "the science of the human mind" (p. 1).

Having at last separated psychology from metaphysic, we do not wish to see it again sucked into its vortex through an attempt to represent "rational psychology" as one of the departments of "the science of the human mind". But I suspect that M. Levy thinks differently. In taking up the position of a psychologist, he does not leave his metaphysical beliefs behind him, or use them only as scientific hypotheses where the facts cannot be explained without them. He imposes them alike on the mind of the reader and on the facts. The first part of his work is in large measure an apology for free-will, special creation, the principium individuationis, as an ego innate in us, yet not inherited or altogether inherited, but with which we are endowed at birth by an act of special creation. What the author precisely means by free-will he does not tell us, nor how it can be reconciled with an attempt to construct a science of character; still less does he point out, what any man who adopts a scientific attitude is bound to do, that type of will, if there be any, which cannot be explained without the assumption of free-will. Such a type of will must in the first place be proved to exist; and its analysis must conclusively show that