WALLACE'S STUDIES.

Studies, Scientific and Social. By Alfred Russel Wallace. Macmillan. 1900. 2 vols. 8vo, pp. 541 and 543. With 114 illustrations.

Fifty-two essays, one for every card in the pack, in the four suits of geology, evolutionary biology, anthropology, and sociology, written in Wallace's clear, flowing style, and with all his argumentative force and ingenuity, full of information upon all sorts of matters of curiosity, afford nothing more interesting among all these than their portraiture of the writer himself. Not quite a typical man of science is Wallace; not a man who observes and studies only because he is eager to learn, because he is conscious that his actual conceptions and theories are inadequate, and he feels a need of being set right; nor yet one of those men who are so dominated by a sense of the tremendous importance of a truth in their possession that they are borne on to propagate it by all means that God and nature have put into their hands—no matter what, so long as it be effective. He is rather a man conscious of superior powers of sound and solid reasoning, which enable him to find paths to great truths that other men could not, and also to put the truth before his fellows with a demonstrative evidence that another man could not bring out; and along with this there is a moral sense, childlike in its candor, manly in its vigor, which will not allow him to approve anything illogical or wrong, though it be upon his own side of a question which stirs the depths of his moral nature. One cannot help entertaining a great esteem for him, even when he is most in earnest and at his *isms*.

A poor reviewer needs to summon all his professional omniscience to comment upon fifty-two discussions with such a range as these; but he can plead the stern exigencies of space as a reason for only noticing a few of them. The seventh essay gives a remarkably luminous and distinct popular account of the different families of monkeys. The reader is disposed to wonder what set Alfred Russel Wallace writing such indisputable matter; but he finds out what it was when, the description being done, in reviewing the order, he pronounces monkeys to be rather low down in the scale of quadrupedal life, both physically and mentally. He still acknowledges that man is the crown of the animal kingdom in both respects. One of these days, perhaps, there will come a writer of opinions less humdrum than those of Dr. Wallace, and less in awe of the learned and official world—for why is not this as supposable as a fourth dimension of space?—who will argue, like a new Bernard Mandeville, that man is but a degenerate monkey, with a paranoiac talent for self-satisfaction, no matter what scrapes he may get himself into, calling them "civilization," and who, in place of the unerring instincts of other races, has an unhappy faculty for occupying himself with words and abstractions, and for going wrong in a hundred ways before he is driven, willy-nilly, into the right one. Dr. Wallace would condemn such an extravagant paradoxer. If a man must indulge in paradox, let him do so in moderation.

Somewhat like the monkey essay in method is the first one in the book, which sketches, not without artistic skill, the Yellowstone Park, the somewhat differently wonderful Grose valley in New South Wales, and other inaccessible valleys, the text being helped by excellent photographs (all the illustrations in the book, by the way, are choice); but all this is but a prelude to an argument that these wells, as they might be called, with their lofty vertical sides, have been worn out by running water.

The anthropological essays relate mainly to the Australians and to the Polynesians; though there is interesting information about the Malays, the Papuans of New Guinea, the Veddahs of Ceylon, the Ainos of Japan, and the Khmers of Cambodia, ancient and modern. The admirable portraits here are, of themselves, mines of instruction. The Australian physiognomies, with their large, round heads, broad and good foreheads, beetling brows, shapely ears, good muscular development, and full beards, would be remarkably European in the impression they make, were it not for their wide mouths, thick lips, and great gobs of noses. The only Aino face here shown has a still better forehead, an excellent nose, not a bad mouth, and might perfectly well pass for a modern Greek of superior intelligence. The Veddahs are naked and completely savage huntsmen, looked upon by the other inhabitants of Ceylon as little higher than wild beasts; yet their faces betoken tremendous intensity and no little subtlety of intellect, refinement of judgment, humanity of feeling, observation, power of will, along with utter absence of civilized discipline. When Wallace pronounces these three races to belong to the same fundamental division of the human race as ourselves, the feeling their portraits excite assents to it. With the sculptured heads of the ruins in Cambodia, it is different. This civilization is not very ancient. It was in all its grandeur only about six centuries ago; and the most ancient work goes back only to 250 B. C. But the faces recall the theory of M. de la Couperie that Chinese civilization was derived, probably indirectly, from Babylonia, about 2300 B. C., and was brought by a tribe which slowly migrated from Western Asia, perhaps Bactria or Chorasmia. For, along with Mongol eyes, we see high foreheads, strong jaws, somewhat Assyrian mouths, and remarkably fine, large noses, of a peculiar character. The two untrustworthy drawings of modern Khmers look European enough, but do not in any respect resemble the ancient sculptures, except in their general intelligence.

In regard to the Polynesians, whom Wallace also believes belong to the Caucasian stock (for he takes it for granted that there is such a stock), it can be only a piece of self-complacency for us to deem them like ourselves, since they are far superior physically, as well as in the sentiments which their portraits bespeak; nor do they strike us as intellectually much below us. Their inferiority, if they have any, shows itself here only in possibly defective energy. Wallace combats the theory, founded on their traditions and language, that they came from Malaysia, and certainly shows that, physically and morally, they are the very antipodes of the Malays, while the Malay words in their languages belong to too modern a dialect of Malay to prove anything. But he quite fails to notice that there are other resemblances between the languages of a deeper character, such as the prevalence of disyllabic roots in both, the use of intensive reduplications (*bertanistanisan* is "wept greatly" in Sumatran, *kaukauwa* is "strong" in Fijian), the running of words together into a peculiar kind of compounds (like *vakayinokaukauwataka*, "to cause the body to be strong," in Fijian; *ikinapapaghampas*, "a reason for submitting to severe beating," in the intermediate Tagala language; and in the Malay languages, though the compounds are not so extraordinary, they are formed in the same way, as *mendupa*, "to fumigate with incense," in Sumatran, *itel*, "seen by him" in Dyak), and the use of a particle to introduce statements of fact. It is surprising, too, that Wallace, with his eye for spying out arguments, should not have seen that the late introduction of words from Malaysia, but not from further north in Asia, goes towards showing that the original migration most likely took the same course.

The general reader will be glad to learn from these volumes what an old Darwinian, a Darwinian before Darwin's hypothesis was known, thinks now of that question, and of Neo-Darwinianism, and of the last utterances of Romanes. He will learn, to begin with, what, of course, is common knowledge with the biologists, that variation in reproduction is far commoner and far greater than it was supposed to be when Darwin wrote—so much so that adaptations might be effected, if need be, like lightning (geological lightning, we mean), or, say, in a few

centuries; and that the real reason why it is the insensible, and not the large, variations that are efficient in natural selection is, that the changes in the environment are so slow that, a species having been already adapted to one state of its environment, any variation not quite minute would render it less fitted for continuance than none at all. He will also observe that the author draws a strong line between the acceptability of natural selection as the only cause of the differentiation between allied species, which he holds to be as good as proved, and the acceptability of it as the cause of the differentiation between families and higher classes, which he thinks extremely doubtful. He is decidedly disposed to accept the doctrines (or some of the doctrines) of Weismann, although he sometimes slips back into modes of thought which we venture to think inconsistent with those doctrines. Thus he says:

"We may, I think, say that variation is an ultimate fact of nature, and needs no other explanation than a reference to general principles which indicate that it cannot fail to exist. Does any one ask for a reason why no two gravel-stones, or beach-pebbles, or even grains of sand, are absolutely identical in size, shape, surface, color, and composition? When we trace back the complex series of causes and forces that have led to the production of these objects, do we not see that their absolute identity would be more remarkable than their diversity? So, when we consider how infinitely more complex have been the forces that have produced each individual animal or plant, and when we know that no two animals can possibly have been subject to identical conditions throughout the entire course of their development, we see that the perfect identity in the result would be opposed to everything we know of natural agencies."

But if he refers to vicissitudes in the life of the individual animal in question, they have no bearing on variation at birth; while if he refers to vicissitudes of his parents' lives, Weismann often speaks as if such circumstances could have no effect upon the germ-plasm, and often makes the offspring a mathematically exact resultant of the germ-plasms of its parents, in so far as they enter into it, and quite independent of aught else. Wallace, however, does not go so far as positively to deny the transmission of acquired characters; he only maintains that there is no real evidence of such a thing. If there should ultimately turn out to be such evidence, the theory of germ-plasm would, apparently, collapse at once; and Wallace seems to admit that the Darwinian theory must stand or fall with germ-plasm.

We do not mean to discuss Mr. Wallace's socialistic doctrines. We only note that he holds, at once, strongly to the freedom of the individual and to socialistic arrangements, such as the state owning all the land, issuing paper money, etc.