

viduals from their sisters. I have noticed that when eggs were being produced a large number of the ants were crowded together in one corner of the nest, and only a few seemed to be on duty as nurses. Whether this segregation has to do with the egg laying or not I do not know.

In this case no males have as yet made their appearance. So accomplished an entomologist as Mrs. Comstock could not have overlooked either these or a queen in her colony, especially as the latter sex in *Lasius* is very much larger and more conspicuous than the worker.

While the observations above quoted are by no means final, they are, nevertheless, of sufficient value to call a halt to all speculation based on the Dzierzon theory formulated in the usual text-book style. As thus expressed this theory can at most be valid for the honey-bee only. The probability that worker ants can really produce other workers or even queens parthenogenetically is of ominous import, not only to some current views on sex determination, but also to many fine-spun theories of instinct and organic development. It has been generally admitted that worker insects have their own specific instincts (a proposition not strictly true, as I have endeavored to show,* since the instincts of the queen ant include all or nearly all the important worker instincts), and that these insects are smitten with such complete sterility as to be absolutely incapable of transmitting their inherited or acquired psychical or physical characteristics. Hence, it is urged, we can explain the existence of these worker traits only by resorting to a natural selection among the queens as bearers of characters which they do not themselves exhibit or exercise. Hence the additional sets of ids, etc., hypostasized in the germ-plasma of the queens. Or, if we have an innate repugnance to natural selection, we are requested to fall back on something like orthogenesis, some Aristotelian principle of perfectibility or Naegelian 'Vervollkommnungsprincip.' But after reveling in this tenuous atmosphere of hypothesis, which I would be the last to deprecate, since it is the only free playground of the living

* 'The Compound and Mixed Nests of American Ants,' *Am. Naturalist*, 1901, p. 798.

and struggling scientific imagination, are we not now bound to return to the cold facts and the drudgery of experiment and observation, if only to gain strength for another flight?

WILLIAM MORTON WHEELER.

AMERICAN MUSEUM OF NATURAL HISTORY.

QUOTATIONS.

THE CARNEGIE INSTITUTION.

THE trustees of the Carnegie Institution held their second annual meeting at Washington on December 9. Nothing that has become known in regard to this meeting will tend to allay the anxiety with which men of science are watching the administration of this great trust. It is reported that Dr. Gilman presented a letter to the trustees announcing his intention to resign the presidency at the close of next year. The institution will consequently drift along for another year, and its immediate future will in large measure depend on the president then chosen. There is no reason to doubt the ultimate outcome, and even the present conditions are only what might have been expected. Special creations are no longer regarded as feasible. The reply may be called to mind of the little boy, who, on being asked who made him, said 'God made me one foot big, and I grewed the rest.' A new foundation such as Mr. Carnegie's can only gradually become a true organism adjusted to the environment.

Mr. Carnegie's original plan of establishing a research university at Washington was comparatively plain sailing. The trustees are now divided as to policy, some wishing to establish certain laboratories at Washington, and others preferring to distribute subsidies throughout the country. The latter plan has been adopted; it has the obvious advantage of not committing the institution as to the future. No special objection can be made to the way the subsidies have been allotted. It is quite certain, for example, that the Harvard, Lick, Yerkes, Dudley and Princeton observatories can spend to advantage any money that may be entrusted to them. Almost any grant for research made to men of science of established reputation will bear fruit a hundredfold.

There is, however, an obverse to the shield. Such grants inhibit individual initiative and local support; they are likely to produce a certain subserviency to the powers that deal out money, and may lead to jealousy and intrigues.

It is perhaps scarcely fair to object to a board of trustees consisting chiefly of prominent politicians, lawyers and business men, who meet once a year, and can not be expected to give much attention to the affairs of a scientific institution, nor to have much knowledge of its scope and possibilities. Such boards are an established American institution, controlling universities, banks, etc. Their principal duty is to select efficient officers of administration. But the Carnegie Institution has been unfortunate in its first officers. Three men were largely instrumental in persuading Mr. Carnegie to make the original gift, and they have assumed control of its administration. This triumvirate has been at the same time autocratic and feeble, and has by no means worked in harmony. Antony may be supposed to say to Octavius:

And though we lay these honors on this man,
To ease ourselves of divers sland'rous loads,
He shall but bear them as the ass bears gold,
To groan and sweat under the business,
Either led or driven, as we point the way;
And having brought our treasure where we will,
Then take we down his load, and turn him off.
Like to the empty ass, to shake his ears,
And graze in commons.

Whether after the ensuing war Antony, Octavius or another will or should become Cæsar need not here be considered; but in the meanwhile and perhaps thereafter science will suffer. The fundamental difficulty is that no method has been found for consulting the consensus of opinion of scientific men. An American university has an absentee board in nominal control and a president as benevolent despot; but there is a faculty, which after all is the real university. The Carnegie Institution has no similar body; and until it is formed, it will drift along without compass or rudder.—*The Popular Science Monthly*.

THE RHODES SCHOLARS.

MR. W. S. MACGOWAN, Principal of St. Andrew's College, Grahamstown, Cape Colony, writes to the *London Times*:

In the *Times* weekly edition of September 25 you print a letter from 'South Africa' dealing with Dr. Parkin's proposal to select the Rhodes scholars from students who shall have pursued a two years' course at some American or colonial university.

When Dr. Parkin was in Grahamstown a short time ago, he explained his views at some length, but he was careful to tell his audience that they were only partially formed and necessarily incomplete, inasmuch as his colonial tour was not yet finished, although he had completed his investigations in the United States. I think that, when Dr. Parkin comes to present his report to the Rhodes Trustees, it will be found that it is America rather than the Colonies which will be found making this demand. To quote Dr. Parkin's own words to me: "The American professors deprecate any denationalization of their young men." This is, of course, quite right and perfectly natural, but surely in a British colony such a consideration as this is somewhat lacking in weight. I have not yet seen Mr. Hawksley's letter, and only know from Reuter that he has written one on this subject; but, apart from the legal aspect of the question, with which he is so amply qualified to deal, there are several reasons against tinkering with the plan that Mr. Rhodes evolved with a view to securing that his scholars should be *bona fide* undergraduates. The first of these is a financial one.

If the suggestion now being canvassed were universally adopted, viz., that every candidate for a scholarship should take a preliminary two years' course at his home university before proceeding to Oxford, there would instantly be swept from the field all boys whose parents could not afford for them more than an ordinary secondary education. There are many in this colony who could never go to Oxford at all if they were compelled to spend two years at the Cape University first.

Again, if the trustees agree to extend the usual university age in the case of Rhodes scholars, they will be running counter to Mr.