

as good an article (for that he cannot do), but because he is less conservative; he is supplanting the American because he is more conscientious.

But it is, perhaps, in science that the discrepancy between this continent and the old world is most marked. For the last generation, at least, the American scientist has had as good a training as any other. His laboratories have been the best equipped, assistance has been given more generously, his grounding has been more thorough, his field of research perhaps greater, yet how many scientists does America possess who are generally recognized as belonging to the first rank? On the whole continent, in chemistry there are, perhaps, two; in biology we might add a third; in physics, also, probably two or three; in geology it is to be confessed the number is much greater, but this is due to the unusual facilities offered for research in this country by the exploration and opening up of vast stretches of new country, a great proportion of which is mining land. It is true we constantly hear of great discoveries by American scientists, but the majority of these are such as have required no originality or deep discernment, but are merely the results of mechanical work, while many are not discoveries at all. Various causes are to be assigned for this unfortunate condition of affairs. One of the most potent is the fact that this is a new country. Everything must have an immediate practical and economic value. Our technical schools must be directly economic. Such a thing as allowing a man in a commercial laboratory four years for a purely scientific research, a proceeding not at all extraordinary in the old land, is here an unheard-of idea. Yet the encouragement of pure scientific research, which in America is almost totally lacking, is of great economic importance, for there is scarcely a scientific discovery which cannot be turned to a most valuable practical use. Then the European scientist is broader. He has travelled more, he has not confined himself to his Alma Mater, but has done work in all the great universities, and has studied under and become acquainted with all the leaders in his particular department.

The social conditions, too, are different in this country. The American is not content to settle down with a very slight remuneration and confine his energy to a research for truth, fired only by a love of his work and the laudable ambition of adding to the sum of human knowledge; he will aim, incidentally, for a bigger salary and a higher social position. In this country the temptation is certainly stronger to turn to a practical use scientific attainments to better one's own financial condition. In Europe the rewards of worth are more certain and more wisely awarded. A great scientist or a great

discovery is sure of recognition. It will necessarily be a matter of time; true greatness can only be known after the lapse of years. Americans are not so cautious in heralding discoveries. It is unnecessary to do anything great to become famous. Reputations, in fact, are much more easily made than earned. Raise a dust and the public will discover a cyclone. Barnum found that the American public preferred to be humbugged. The scientist is no less observant, and many, to their shame be it said, are no less eager to take advantage of it. Self-advertisement and sensationalism, which would not be tolerated elsewhere, are here rampant. From good motives, or otherwise, there is a craze for publishing papers, monographs, and text-books. Such literature has become so voluminous that it is almost impossible to discover the wheat in the chaff. As few are able to judge the real value of a scientific work, it is a pretty safe road to fame. How meritorious many of the works are, the great originality which must be credited them, may be estimated from the errors copied from one to another. Great reputations have been established in America by discoveries (?) with the X rays, though to this hour scarcely anything has been accomplished beyond repeating the published experiments of the original investigator. A new organic compound discovered, a merely mechanical operation, will cause a stir throughout America—abroad hundreds are being silently manufactured.

Americans have a rage for discovering and naming new things. Countless new minerals are being pointed out and named, but the number of species still must remain under one thousand. A wonderful outburst will herald the announcement of a discovery and a reputation gained, so it little matters if time proves it a false discovery: the public will never hear of it. Such work not only does not advance science, it hinders it.

At present there are too many engaged in science for the same reason as prompted Grant Allen to desert it—fame and the almighty dollar. Until American workers are universally actuated by the highest motives we cannot hope to take rank in the scientific world.

#### COMMUNICATION.

*To the Editor of the Journal:*

There is a bitter drop in every cup. In this case the drop was fifty cents, and the gentlemen of the Banjo Club could not swallow it. But stay! Was it a matter of fifty cents or was it a matter of principle? We must believe it was the latter; and yet, no doubt because of our own stupidity, we are totally unable to comprehend the principle underlying their action. Our inability to grasp the situation is doubly ludi-