

sufficient warrant in using at least his munificent gift in supplementing the special instruction with general instruction, and rounding it out into the proportions of a university."

Now, proceeding on this theory, under the head of 'Organization,' President White gives a list of the departments which he thinks ought to be established. Conspicuous in this list, on p. 5 of the report, is the department of medicine and surgery, and the department of law. Then on p. 13 of the same report I find, in the list of professors, the appointment of whom he recommends, — a 'professor of municipal law,' and a 'professor of constitutional law.' For the purposes of this presentation it is, of course, needless to speak of the other departments contemplated in the plan of organization.

Now, I have read all the speeches, and I believe all the reports, of President White; and I believe there is not a passage in one of them, from first to last, that contradicts, either in letter or in spirit, the doctrine here set forth. I will go further, and say that through them all is to be seen the same spirit as that manifested in the 'plan of organization.' This is my answer to 'H. N.'s' grandiloquent inquiry, "Where are the traditions and the law and charter of Cornell?"

It has never been claimed, and is not now claimed, that the technical departments are of secondary importance; but, as I asserted in my address at New York, I hold that these departments have now so far been provided for, that the time has arrived when attention should be called to the needs of other departments. I do not mean by this that the university is to cease its appropriations for the technical schools. So far as I know, it has no such intention. This, indeed, may fairly be inferred from the fact that at the present moment the trustees are taking steps for the immediate erection of an ample building for the veterinary department, and to add four rooms to the agricultural museum. We shall do still more in the same direction, but it is not the purpose of the trustees to limit the activities of the university to a single one of those interests, contemplated at the time of its organization, and, indeed, throughout its history.

No revolution is taking place at Cornell. On the contrary, its trustees are trying to develop it strictly along the line of its fundamental law, its charter, and its traditions. Surely it is late in the day for this university to be turned from such a purpose by any hint that its charter is in danger.

C. K. ADAMS.

Cornell university, April 26.

#### Popular astronomy.

I think the author of the article 'Popular astronomy' (*Science*, April 23), in his chivalric defence of the rights of Professor Newcomb and myself, has really done a serious injustice to Dr. Ball in virtually charging him with deliberate plagiarism and "a continued effort to conceal the theft, which is petty in the extreme," by slight alterations of the borrowed material. No one personally acquainted with Dr. Ball could possibly suspect him of intentional wrong in the case: I believe him to be totally incapable of any thing dishonorable.

Judging from my own experience, which, though not extensive, has been exactly to the point, a very simple explanation will account for the apparent

appropriation of other people's language, which is the foundation of the charge. In preparing for lectures to college classes and to popular audiences, I collect all the material I can find, and, in speaking, use it liberally. Of course, I indicate in a general way my obligations and sources of information; but it is quite impossible, while speaking, to point out every place where I am using language suggested by my reading. In fact, not having the matter written out, it is not possible (for me at least) to quote accurately the words of my authority; and, after a few repetitions of the lecture, the *quasi* quotations become modified by changes that make them conform to my usual forms of expression, and render them, so far as consciousness is concerned, quite as much my own as any other part of the lecture. At the same time they would be quite recognizable by one familiar with the original.

Now, in making a book upon the subject upon which one has been lecturing, he will inevitably write pretty nearly what he would say if standing before an audience, and in this way will quote, unconsciously and more or less inaccurately, passages of considerable length from the works he used in his original lecture-preparation. The only way I know of to do justice in the matter, is first to put into the preface of the book a full general acknowledgment of obligations, and then to go over the manuscript, lecture-notes in hand, hunting up and marking all these unconscious quotations, and restoring them to their original form.

Dr. Ball seems to have failed in doing this thoroughly, and hence, no doubt, the oversights which have led to the charge of guiltily disguised plagiarism. I am sure he meant no wrong, and I am greatly complimented and flattered by his approval and use of my work.

C. A. YOUNG.

Princeton, N.J., April 24.

As Sir Robert Ball is on the other side of the Atlantic, I deem it proper to say that he has satisfactorily explained the circumstances alluded to in the last number of *Science*. Although this explanation only refers to the copying of passages from my 'Popular astronomy,' I have no doubt that his remarks would apply equally to the close parallelism of passages in his book, and in Professor Young's treatise on the sun. His statement is as follows: —

"Your sketch of the discovery of the companion of Sirius I transcribed some years ago, before I had any thoughts of writing my book. The passage about Tycho I had, however, more recently taken. When I came to prepare the materials for the press, I lost sight, it seems, of the source of these passages, and treated them as if the language had been my own."

"Not until yesterday, when I read the review in the *New York Nation*, did I know that my book contained any passage virtually yours, except that duly acknowledged on p. 231."

I suppose this is an inadvertence of which any of us might be guilty who are in the habit of copying passages for use in popular lectures, or as memoranda for any other purpose.

S. NEWCOMB.

#### Arsenic in wall paper.

A note in *Science* (April 23, p. 371) says, "The investigation before the Massachusetts legislative committee on the subject of arsenic in wall-paper indi-