together the original data in order to compare the light pressure upon a vane of clear glass with that upon a silvered surface.

The experiment may be here recalled. A torsion balance carrying a thin vertical glass vane, 14×10×0·1 mm., silvered on one side, was suspended in a bell jar, and the air was pumped out until the pressure was about 40 mm. of mercury. A beam of light was thrown upon this vane at a definite distance from the rotation axis, and by turns on each side of it. The deflections were read by a telescope and scale. A Nernst lamp was used as a source, the intensity being given by a precision wattmeter. The balance was then turned through 180° by the rotation of the external control magnet, and readings were again taken. The mean was proportional to the pressure of the incident and reflected beam. The mean reflection coefficient of air-silver and air-glass-silver for the radiation used has been found to be 85 per cent. The pressure, according to Maxwell's theory, should therefore be 1·85 times that due to the incident beam. The throw obtained (containing certainly less than 1 per cent. of gas action) was 22·8 divisions. Hence the pressure of the standard beam upon a black surface would be 22·8 ÷ 1·85 or 12·4.

The balance was then taken from the bell jar, the silver removed from the vane, and the glass surface cleaned. The balance was then replaced, and the air pumped out as before. The deflections were small, only about 2 mm., and therefore could not be read to a greater accuracy than 5 per cent. The throw obtained for standard lamp was 2·1 divisions (the mean of forty observations at four different air pressures).

The normal reflection coefficient of glass ($\mu = 1{\cdot}52$) for this kind of radiation is 4·1 per cent. The amount reflected from the two surfaces is approximately 8·2 per cent. Hence the energy per unit volume in front of the glass is about 1·082 times that of the incident beam, and that behind the vane (since the absorption is negligible) is 0·918 times that of the incident beam. The former quantity is greater than the latter by 16·4 per cent. of the energy of the incident beam. Assuming that the pressures on the front and back surfaces of the glass are proportional to the energies per unit volume, the pressure of the standard beam upon a black surface would be 2·1 ÷ 0·164 or 12·7. The agreement between this result and the similar result obtained from the silvered surface shows that light passing through a plate of glass exerts pressures upon the surfaces equal to the difference between the energies per unit volume in front of and behind these surfaces.

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The Habits of Testacella.

UNTIL reading Mr. Latter's letter in this week's NATURE I was unaware that it was not a matter of common knowledge that Testacella appears on the surface during heavy rains. My garden is liable to be flooded, as also, unhappily, is much of this neighbourhood, in spring and late autumn. After the water has stood for a few days the ground is covered by hundreds of these slugs, which leave their burrows and try to find dry quarters. They can survive, however, a week's immersion. In June, 1903, when much of the Thames valley was flooded, I collected a number of these slugs for various malacological friends. In normal circumstances they live at such a depth as never to be unearthed during garden operations.

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NATURE AND MAN.

PROF. LANKESTER in his Romanes lecture began by a statement of the theory of evolution, directing attention to unwarranted inferences commonly drawn by clever writers unacquainted with the study of nature. He described how the change in the character of the struggle for existence, possibly in the Lower Miocene period, which favoured an increase in the size of the brain in the great mammals and the horse, probably became most important in the development of man. The progress of man cut him off from the general operation of the law of natural selection as it had worked until he appeared, and he acquired knowledge, reason, self-consciousness, and will, so that "survival of the fittest," when applied to man, came to have a meaning quite different from what it had when applied to other creatures. Thus man can control nature, and the "nature-searchers," the founders of the Royal Society and their followers, have placed boundless power in the hands of mankind, and enabled man to arrive at spiritual emancipation and freedom of thought. But the leaders of human activity at present still attach little or no importance to the study of nature. They ignore the penalties that rebellious man must pay if he fails to continue his study and acquire greater and greater control of nature.

Prof. Lankester did not dwell upon the possible material loss to our Empire which may result from neglect of natural science; he looks at the matter as a citizen of the world, as a man who sees that within some time, it may be only 100 years, it may be 500 years, man must solve many new problems if he is to continue his progress and avert a return to nature's terrible method of selecting the fittest. It seems to us that this aspect of the question has never been fully dealt with before. Throughout Huxley's later writings the certainty of a return to nature's method is always to be felt. Prof. Lankester has faith in man's power to solve those problems that seem now to be insoluble, and surely he is right.

The dangerous delay now so evident is due to the want of nature knowledge in the general population, so that the responsible administrators of Government are suffered to remain ignorant of their duties. Prof. Lankester shows that it is peculiarly in the power of such universities as Oxford and Cambridge, which are greatly free from Government control, to establish a quite different state of things from that which now obtains in England. He says:—"The world has seen with admiration and astonishment the entire people of Japan follow the example of its governing class in the almost sudden adoption of the knowledge and control of Nature as the purpose of national education and the guide of State administration. It is possible that in a less rapid and startling manner our old Universities may, at no distant date, influence the intellectual life of the more fortunate of our fellow citizens, and consequently of the entire community." Considering Oxford more particularly, and speaking for others as well as himself, he says:—"The University of Oxford by its present action in regard to the choice and direction of subjects of study is exercising an injurious influence upon the education of the country, and especially upon the education of those who will hereafter occupy positions of influence, and will largely determine both the action of the State and the education and opinions of those who will in turn succeed them." As to Greek and Latin studies, he says:—"We have come to the conclusion that this form of education is a mistaken and injurious one. We desire to make the chief subject of education both in school and in college a knowledge of Nature as set forth in the sciences which are spoken of as physics, chemistry, geology and biology. We think that all education should consist in the first place of this kind of knowledge, on account of its commanding importance both to the individual and to the community. We think that every man of even a moderate amount of education should have acquired a sufficient knowledge of these subjects to enable him at any rate to appreciate their value, and to take an interest in their progress and application to human life." He points out that it is only in the