

That one of only two alternatives is proved to be absurd is conclusive demonstration that the other must be true. In this way Reason corrects her own operations, for the faculty which recognizes one proposition as evidently absurd, is the same faculty which recognizes another proposition as evidently true. It is, indeed, because of its contradicting something evidently true, or something which has been already proved to be true, that the absurd result is seen to be absurd. It is in this way that, in the exact sciences, erroneous data are being perpetually detected, and the sources of error are being perpetually eliminated. But reason seems to have no similar power of detecting errors in the data which are supplied to it from other departments of thought. In the developments, for example, of social habits, and of the moral sentiments on which these principally depend, no results, however extravagant or revolting, are at all certain of being rejected because of their absurdity. No practice however cruel, no custom however destructive, is sure on account of its cruelty or of its destructiveness to be at once detected and rejected as self-evidently wrong. Reason works upon the data supplied to it by superstition, or by selfish passions and desires, apparently without any power of questioning the validity of those data, or, at all events, without any power of immediately recognizing even their most extreme results as evidently false. In Religion, at least, it would almost seem as if there were no axiomatic truths which are universally, constantly, and instinctively present to the mind—none at least, which are incapable of being obscured—and which, therefore, inevitably compel it to revolt against every course or every belief inconsistent with them. It is through this agency of erroneous belief that the very highest of our faculties, the sense of obligation, may and does become itself the most powerful of all agents in the development of evil. It consecrates what is worst in our own nature, or whatever of bad has come to be shown in the multitudinous elements which that nature contains. The consequence is, that the gift of Reason is the very gift by means of which error in belief, and vice in character, are carried from one stage of development to another, until at last they may, and they often do, result in conditions of life and conduct removed by an immeasurable distance from those which are in accordance with the order and with the analogies of Nature.

These are the conditions of life, very much lower, as we have seen, than those which prevail among the brutes, which it is now the fashion to assume to be the nearest type of the conditions from which the human race began its course. They are, in reality and on the contrary, conditions which could not possibly have been reached except after a very long journey. They are the goal at which men have arrived after running for many generations in a wrong direction. They are the result of Evolution—they are the product of Development. But it is the evolution of germs whose growth is noxious. It is the development of passions and desires, some of which are peculiar to himself, but all of which are in him freed from the guiding limitations which in every other department of Nature prevail among the motive forces of the world, and by means of which alone they work to order.

It is in the absence of these limitations that what is called the Free Will of Man consists. It is not a freedom which is absolute and unconditional. It is not a freedom which is without limitations of its own. It is not a freedom which confers on Man the power of acting except on some one or other of the motives which it is in his nature to entertain. But that nature is so infinitely complex, so many-sided, is open to so many influences, and is capable of so many movements, that practically their combinations are almost infinite. His freedom is a freedom to choose among these motives, and to choose what he knows to be the worse instead of the better part. This is the freedom without which there

could be no action attaining to the rank of virtue, and this also is the freedom in the wrong exercise of which all vice consists. There is no theoretical necessity that along with this freedom there should be a propensity to use it wrongly. It is perfectly conceivable that such freedom should exist, and that all the desires and dispositions of men should be to use it rightly. Not only is this conceivable, but it is a wonder that it should be otherwise. That a Being with powers of mind and capacities of enjoyment rising high above those which belong to any other creatures, should, alone of all these creatures, have an innate tendency to use his powers, not only to his own detriment, but even to his own self-torture and destruction, is such an exception to all rule, such a departure from all order, and such a violation of all the reasonableness of Nature, that we cannot think too much of the mystery it involves. It is possible that some light may be thrown upon this mystery by following the facts connected with it into one of the principal fields of their display—namely, the History of Religion. But this must form the subject of another chapter.

## ASTRONOMY.

### DISCOVERY OF A NEW COMET.

Mr. Lewis Swift, of Rochester, N. Y., has announced to the Smithsonian Institution the discovery by himself, on Sunday morning, May 1st, 1881, of a bright comet in Right Ascension  $0^h 0^m$ , Declination  $37^\circ$  North. The comet rises a little before the sun and is moving slowly south.

Professor A. Hall makes the following enquiry in "The Analyst:" "Observations on the motions of the sun-spots have also established the fact that the sun is not strictly a fixed body, around which the earth revolves, but that it has a motion of its own thro' space."—*Physiography*, by T. H. Huxley, F. R. S., 2nd Ed., p. 365. How can the above fact be determined by observations of the sun-spots?

## NOTES.

A BILL has been introduced into Parliament for the purpose of authorising the erection of a system of pneumatic clocks in the streets of London.

AUSTRALIAN TELEGRAPHY.—At the close of 1879 some 31,556 miles of telegraph wire were at work on the Australian Continent, and 40,634 miles with Tasmania and New Zealand added.

It is said that the Telephone Company in Belgium has inaugurated a system by which subscribers leaving word the previous evening may be awakened at any hour in the morning by means of a powerful alarm.

COLONEL PARIS, the head of the Paris fire brigade, has concluded his report on the destruction of the Printemps Establishment by proposing that large warehouses be compelled to light by electricity.—*Nature*.

A FEAT IN NICKEL-PLATING.—The plating company of the Berlopton Lane Works, Stockton-on-Tees, have successfully plated with nickel three large cylinder covers for marine engines, on account of Messrs. Maudslay, Son, and Field, the eminent engineers. The largest cover weighs nearly  $1\frac{3}{4}$  tons, and is 6 ft. 6 in. in diameter. It was plated in the large nickel bath, and polished all over successfully by one of Fenwick's patent portable polishing machines. The same company have also just nickel-plated the whole of the bright parts of Sir James Ramsden's yacht engines, built by the well-known firm, the Barrow Shipbuilding Company (Limited), also, some locomotive domes and safety-valve covers.