nation's heart beat as one. Patriotism and national pride had conquered sectionalism and personal selfishness. The era of good feeling had dawned."

It may seem to the general reader that the author regards the beneficial effects of the war as wholly transient and temporary, — good while they lasted, but soon to be entirely obliterated: in other words, that the sentiment of nationalism which then made itself apparent was a thing of present interest rather than of permanent importance. "Although *not destined to be permanent*," says Dr. Butler on p. 26, "the national feeling it produced was something entirely novel." "The ebb was to be greater than the flow," is another expression that may mislead. But the author clearly does not mean to ignore the fact that the war of 1812 did, in truth, lay the foundation for that imposing constitutional structure which Webster and his followers were to build, and which fell not in the time of trial, being founded on a rock. In fact, from the year 1816 begins the true development of a party devoted to the preservation of the Union; and if Dr. Butler does not follow out this line of thought, it is because he has distinctly limited his discussion to the consideration of the immediate results, and declined to enter upon investigations too extensive for the pages of a monograph.

H. T. P.

The Principles of Morals. By Professors FOWLER and WILSON. Oxford, Clarendon Pr.

TREATISES in ethics seem more numerous in the last decade than in any other. The revival of interest in this subject reminds us of the emergencies that called forth the moral earnestness of Plato. Indeed, the revolution going on in present ethical speculations is a repetition of the sophistic movement in Greece, and seems to provoke similar reconstructive efforts. But the task this time is a greater one than that with which earlier moralists had to contend.

The successors of Professor Green follow that lamented author's 'Prolegomena' with a very different discussion of ethical problems. The work is the joint product of two authors, and consists of two parts. The introduction is mainly historical, but contains sufficient criticism to determine the position of the writers. It is admirably free from the long and labored discussions about pleasure which make so many systems of ethics tedious and useless. Only a few pages are devoted to methods of ethics, the authors not being willing to repeat the satisfactory work of Mr. Sidgwick, with whom they substantially agree. The second part is a pointed and direct discussion of those questions having an immediate interest for present speculative morals. Theories of ethics, that limbo of wasted energies, are entirely abandoned for the psychological examination of moral facts as they appear in the life of the individual and of society. A characteristic feature of the work is its unconscious betrayal of the immense influence exerted upon ethical conceptions by modern scientific thought, and especially by the doctrine of evolution.

The decline of theology, and of conceptions of life founded upon it, has disparaged the theonomic view of morals as advocated by men like Bishop Martensen; and a re-action against such ethics, led by the principle of evolution, has forced into great prominence the consideration of self-regarding impulses to action. The first chapter shows this very distinctly. The last completes the separation between theology and morals.

There is an important remark in the chapter on self-regarding feelings which is the keynote to all social and moral questions of the present time. It is this: "While man lives from hand to mouth, the want of the necessaries of life, the hard struggle for existence, leaves neither leisure nor inclination for the development of the higher faculties." Professor Green makes a similar remark: "Until life has been so organized as to afford some regular relief from the pressure of animal wants, an interest in what Aristotle calls τὸ εὖ ζῆν, as distinct from τὸ ζῆν, cannot emerge." This means that moral life requires relaxation from perpetual and exhausting toil in order to be realized; and modern ethics have become conscious of the fact that large portions of the human race have not, and perhaps cannot expect, this exemption. What, then, about moral life where the industrial classes are condemned to employments that make it impossible? There is a tincture of pessimism latent here, and the unfortunates of modern social life are learning the real causes of their deplorable condition: like Enceladus, they are trying to turn over, and to relieve themselves in their uneasy position. The inequalities of the present cannot be postponed to the future for adjustment, and egoistic instincts are likely to assume an arrogance which theological beliefs once effectually suppressed. Modern civilization is slumbering upon a volcano, and reminds us of Carlyle's allusion to Vesuvius: "The earth, green as she looks, rests everywhere on dread foundations were we further down; and Pan, to whose music the nymphs dance, has a cry in him that can drive all men distracted." Self-regarding impulses may become dangerous: still no progress is possible without them, and the marvellous recuperating forces of human nature will always bring up the unexpected and the impossible; so that, amid impending consequences of the most threatening kind, there may be the promise of escape and security.

The discussion of the sympathetic, the resentful, and the semi-social feelings is able and suggestive. The freedom of the will is dismissed in much the same way as it is disposed of by Bain and Sidgwick. There is an interesting chapter on the relation of the imagination to moral ideals. The style is like that of most English writers at present, except Mr. Martineau, heavy, and uninteresting, — a great fault in subjects which are fast acquiring such supreme importance.

NOTES AND NEWS.

AT the recent Royal Academy banquet, Professor Huxley concluded his speech thus: "Art and literature and science are one; and the foundation of every sound education, and preparation for active life in which a special education is necessary, should be some efficient training in all three. At the present time, those who look at our present systems of education, so far as they are within reach of any but the wealthiest and most leisured class of the community, will see that we ignore art altogether, that we substitute less profitable subjects for literature, and that the observation of inductive science is utterly ignored. I sincerely trust, that, pondering upon these matters, understanding that which you so freely recognize here, that the three branches of art and science and literature are essential to the making of a man, to the development of something better than the mere specialist in any one of these departments — I sincerely trust that that spirit may in course of time permeate the mass of the people; that we may at length have for our young people an education which will train them in all three branches, which will enable them to understand the beauties of art, to comprehend the literature, at any rate, of their own country, and to take such interest, not in the mere acquisition of science, but in the methods of inductive logic and scientific inquiry, as will make them equally fit, whatever specialized pursuit they may afterwards take up. I see great changes: I see science acquiring a position which it was almost hopeless to think she could acquire. I am perfectly easy as to the future fate of scientific knowledge and scientific training: what I do fear is, that it may be possible that we should neglect those other sides of the human mind, and that the tendency to inroads which is already marked may become increased by the lack of the general training of early youth to which I have referred."

— Simultaneously with the appearance of the report of the Seybert Commission on Spiritualism, the J. B. Lippincott Company publish a volume by John Darby (Dr. Garrettson) with the rather peculiar title, 'Nineteenth-Century Sense: the Paradox of Spiritualism.' The first fifty pages of the book are printed in small type, and describe a series of very wonderful experiments in 'transcendental physics,' the writing on slates by unseen hands, the slipping of iron rings upon firmly bound arms, the tying of knots in an endless rope, materializations and visions, and so on, all performed with the assistance of a member of the Seybert Commission. These are recorded with all the enthusiasm and interest of a believer, when suddenly we are told that his confrère confided to him how all had been done: it was sense-deception, trickery and nothing else. From this on, such manifestations have nought to do with Spiritualism. We now enter a higher sphere and a larger type. The author is a Rosecrucian (so he tells us), and uses the word as meaning an illuminatus. He has had revealed to him the inner meaning of things, and lives in a different world. He then ex-

pounds his theories in a language full of incomprehensible cant, glorying in paradoxes, flying from one topic to another at a most erratic gait, and beginning and ending nowhere. The whole is strongly suggestive of a semi-morbid condition of mind, and will probably have a charm for minds of neurotic temperament that delights in the apparent and exclusive possession of an un-understood mystery. The redeeming point of the volume is its refusal to ally itself with coarse, physical deceptions, and thus gives no opportunity for preying upon the liberality of the credulous.

— The changes in the elevation of the Caspian Sea and the Baltic have been discussed by Dr. Brückner in a lecture delivered at the meeting of the German Meteorological Society at Karlsruhe, and by W. Seibt ('Das Mittelwasser der Ostsee bei Travemünde'). Both authors show by their separate methods that the influence of the wind upon lakes has been overrated, and that the annual rainfall regulates the amount of water in lakes and seas communicating with the ocean through narrow channels. The amount of water carried by the Volga regulates the elevation of the surface of the Caspian Sea, and the same is the case with the Black Sea and its affluents. Brückner shows that the easterly winds of May and the westerly winds of July and August have an influence upon the Baltic, but the thorough discussion of the gauge observations at Travemünde by W. Seibt proves that only in April, May, and September the height of the water corresponds to the direction and pressure of the wind. It appears that the volume of water of the Baltic is subject to periodical changes. While Brückner believes that this is entirely due to the changes of the annual rainfall, Seibt concludes that a periodical annual tide exists in the ocean, which is observed only in seas in which the daily tide is insignificant.

— Over 60,000,000 caterpillar-cocoons were destroyed on the trees in Washington during the spring, so that the city will not suffer from this pest this year as badly as formerly.

— U. S. Consul Siler at Cape Town, Africa, has sent to the Department of State an interesting report on leprosy in South Africa. He says that he has recently read in American papers of the existence of leprosy on the Pacific coast, with expressions of fear that the disease may become general. The disease, he states, is not uncommon in South Africa.

— The sitting statue of Bowditch the navigator, executed in 1847 by Ball Hughes, and long one of the most celebrated monuments in Mount Auburn cemetery, Cambridge, has just been replaced by a new casting from the foundry of Gruet jeune of Paris, the old showing some signs of injury due to defective founding.

LETTERS TO THE EDITOR.

*** The attention of scientific men is called to the advantages of the correspondence columns of* SCIENCE *for placing promptly on record brief preliminary notices of their investigations. Twenty copies of the number containing his communication will be furnished free to any correspondent on request.*

The editor will be glad to publish any queries consonant with the character of the journal.

Correspondents are requested to be as brief as possible. The writer's name is in all cases required as proof of good faith.

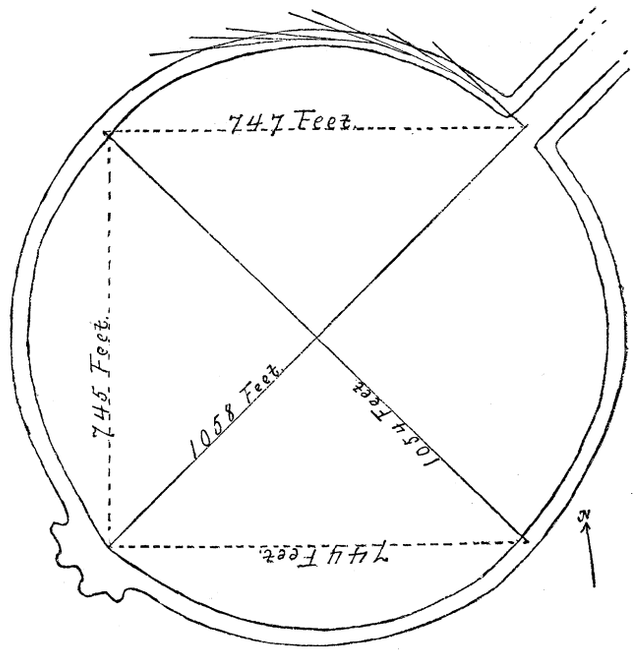
Ohio Mounds.

HAVING recently made a survey on behalf of the Bureau of Ethnology, of some of the circles of the ancient works of Ohio, I wish to call attention, by permission, to one or two facts brought to light.

This can best be done by an illustration, for which purpose the 'Observatory Circle' of the works at Newark, Licking County, is selected (see 'Ancient Monuments,' by Squier and Davis, Plate xxv. F.).

Running this by means of short chords of seventy-five feet in length, taking the middle line of the top of the wall, I found the number to be 44, and twelve feet in addition, or the perimeter of the polygon 3,312 feet. The course of each chord was taken. While the variation from one to the other, if the figure were a true circle, should be about 8° 9′, it was found to vary from one to fifteen degrees. But, somewhat to my surprise, it was found that these variations compensated each other in short distances, so that in measuring the quarters they almost wholly disappear, the angle of the first quarter being 44° 52′, and its chord 747 feet; the angle of the second quarter 45°, and its chord 745 feet; of the third quarter, 44° 52′, and the chord 744 feet; the fourth quarter was not measured owing to obstructions. It is therefore apparent that the figure as a whole is very near a true circle.

But the most singular fact is presented by the diameters. These, as taken by careful measurements from the quarter-stations, are



respectively 1,054 and 1,058 feet, the average of which is 1,056 feet, precisely sixty-four poles, or sixteen chains.

As there are several other circles of the size, this singular coincidence is, to say the least, interesting. JAMES D. MIDDLETON.

Youngsville, Penn., June 22.

Waterspouts.

BELIEVING that every natural phenomenon, especially when unusual or little studied, is worthy of record, we have put down a few notes about a series of waterspouts which passed here on Monday, May 23, shortly after noon. One of us saw at one time, from an elevation of about one hundred and fifty feet, as many as nine in various stages of their formation; the other, eight, at an elevation of fifty feet, we being about half a mile apart; and some persons claim to have seen twelve in all.

Alassio is situated on a bay, or rather roadstead, which is about five miles from headland to headland in a straight line: from that line to our villas is at least two miles.

On the 22d there was a severe storm throughout north Italy, extending from Padua to Turin, accompanied by hail and frost. The mountains behind Genoa, and all along the coast, were again covered with snow. This storm appeared to divide, and while going through the mountains to the north, not seen from here, passed us about three miles out at sea, at about 11 A.M. Then there was no wind; the sea was unusually smooth in the bay, but the line of the storm was strongly marked, and the roaring of the waves was distinctly heard. A little later we had a very slight shower.

The morning of the 23d was unusually electrical, so much so as to make every one feel uneasy and restless. The wind dropped, and there was a dead calm. At a little after twelve we were called out by our gardeners and servants, and, looking out at sea, saw a long black cloud lying in a straight line across the bay, from which long descending tubes — some straight, as if drawn with a rule, others twisted like snakes — were moving rapidly in procession in a south-westerly direction. The surface of the sea boiled, and the foam and spray rose many feet into the air with a loud roaring plainly heard on land. In some cases, as these tubes approached the sea with their dangling ends, the water seemed gradually to rise and meet them. In other cases the ends swayed to and fro above the waves, either forming no connection with them, or having already begun to break up. In nearly every case the