culture of crayfish will be profitable as soon as the market price is greater than the small cost of food, the inexpensive farm and the value of the little labor involved. The introduction of the large Oregon crayfish with its attractive colors and large claws might conceivably so stimulate the general demand as soon to raise the market value to such a profitable level.

E. A. Andrews.

Baltimore, May, 1906.

TWO LETTERS OF DR. DARWIN: THE EARLY DATE OF HIS EVOLUTIONAL WRITINGS.

Several letters of Erasmus Darwin have lately come into my possession, and two of them seem worthy of publication, if only for the reason that reference to his evolutional ideas seldom occur in his correspondence. In this regard, for example, Charles Darwin states in his introduction to Dr. Krause's 'Erasmus Darwin,' that 'most of the letters [of his grandfather] which he possessed or had seen, are uninteresting and not worth publication.'

The earlier letter, I may note, has the merit of referring to Dr. Darwin's work on the anatomy of plants, and to his ingenious effort to show closer correspondence between the organs of the higher plants and the higher animals. Indeed, as we know from other sources, he even expected ultimately to find in plants the homologues of the animal nerves, ganglia and sense organs. Accordingly, we are not surprised to find that he refers here, in quite a matter of fact way, to the 'blood' and the 'two systems' of a plant. And he gives us also a glimpse of laboratory methods, and of his interest in getting in prompt touch with the results of foreign workers.

The first of these letters is addressed to 'Sir Joseph Banks, Bar^{t}. Soho Square London.' and is as follows:

Radburn Mar. 16—82

Dear Sir,

I return'd your sixth volum of the Ameenit. academ. & thank you for the loan of it. I should have sooner sent it, but hoped to have received another copy of Murray, & also that Dr. Linneus's supplementum would have been procured from abroad, & thence meant to have returned them together.

Mrs. Blacburn favor'd us with a copy of Murray, but desired it to be returned in three months, which it was to a day; & as I could procure but one other, & our society was not all resident at Lichfield, we were distressed on this account, but are still flatter'd with daily hopes of more copies being imported. I am sorry you say the remainder of the supplementum is not likely soon to be had.

On looking over Malpighi, & Grew, & Hales, the physiology of plants appear'd to me, not to have hitherto been under the attention of any one perfectly acquainted with the animal economy. Last summer I contrived to inject the absorbent system of the Picris with a colour'd liquor; & as the blood of that plant is white, these two systems were beautifully apparent to the eye. On reading a manuscript translation of Mr. ——— a Sweedish naturalist, I found the authors, I mentioned to you in my last, had made a set of similar experiments; & I had designed to have investigated this subject, so little understood at present, farther during the summer.

This however I have now laid aside, for perhaps more important, tho' less ingenious occupations; & shall therefore decline giving you the trouble of sending me the books you are so kind as to offer, both in your last, & in a former letter of yours, I am S^{r}.

with great respect
your obed^{t}. servt^{t}.
E. Darwin.

The second letter is of livelier interest. He denies having 'stolen' his 'Botanic Garden,' or of even having heard of its prototype, probably the 'Universal Beauty' of Brooke (1735). And he modestly predicts of the effect of his evolutional 'conjectures.' Finally, he refers to the 'Zoonomia,' as having been on his work table—or rather 'lain by him' for 'nearly twenty years'—*i. e.*, since about 1771. That the work here referred to is the 'Zoonomia,' there can be no doubt; he obviously means an extended evolutional work, and, in a letter to a son, dated the following year (cited in the introduction to 'Erasmus Darwin,' above referred to, page 102), he says, that "he is studying his 'Zoonomia.'" It is, of course, well known that this work was long intended for posthumous publication. But the exact

time when the first draft of this pioneer evolutional treatise was completed is not known. Charles Darwin says, in the Introduction, that it was intended for posthumous publication as early as 1775; and, according to the remark in the present letter, it may have been fairly complete several years earlier. There is no evidence, however, that it antedated the evolutional writings of Buffon (1765).

This second of these letters is addressed to 'Dr. Percival Physician Manchester,' and reads as follows:

Dear Sir,

I am much obliged to you for the kindness of your letter; & thank you for your inquiry into the merits of a poem, from which the Botanic Garden was supposed to have been stolen; an accusation which however I had not heard of, & am the more indebted to you for shewing the falsity of it.

The first part, which you are so obliging as to inquire after, is nearly printed; & I suppose will be out, if not delay'd by the engraver, in 3 or 4 weeks. It is longer than the other, & if you are at the trouble to read it, I shall be glad of any remarks, which may improve a second edition of it; if such should be called for.

I hope you will be amused, tho' not convinced, by the conjectures in the notes on coal ("upon geology," stricken out), on the winds of this climate, & on the use of the honey to the vegetable economy.

Was I sure of such candid readers, as yourself, I should be tempted to print another work, which has lain by me nearly 20 years. Adieu.

I am, dear Sr.
Your much obliged
& obedt. servt.
E. DARWIN.

Derby
Jun. 18—91.

BASHFORD DEAN.

COLUMBIA UNIVERSITY.

STATISTICS OF MORTALITY.

THE Bureau of the Census has published a report presenting mortality statistics for the United States for the five calendar years 1900 to 1904. This report was prepared under the supervision of the late William A. King, chief statistician for vital statistics.

The number of deaths reported in the registration area in 1900 was 539,939, and the death rate per 1,000 of population was 17.6. In 1901 the rate declined to 16.6 and in 1902 to 16. The rate increased in 1903 to 16.2 and in 1904 to 16.7. The average annual rate for the five years was 16.6 per 1,000. The corresponding rates in certain foreign countries are shown in the following table:

COUNTRY.	NUMBER OF DEATHS PER 1,000 OF POPULATION: 1900 TO 1903.				
	Annual Average.	1900	1901	1902	1903
Registration area of United States	16.6	17.6	16.6	16.0	16.2
England and Wales	16.7	18.2	16.9	16.2	15.4
Scotland	17.5	18.5	17.9	17.2	16.6
Ireland	18.1	19.6	17.8	17.5	17.5
Germany	20.7	22.1	20.7	19.4	(1)
Prussia	20.3	21.8	20.5	19.2	19.8
Norway	14.9	15.9	14.9	13.9	14.8
Sweden	15.8	16.8	16.1	15.4	15.1
Hungary	26.3	26.9	25.4	27.0	26.1
Netherlands	16.7	17.8	17.2	16.3	15.6
Belgium	17.6	19.3	17.2	17.3	17.0
Switzerland	18.0	19.3	18.0	17.2	17.6
Spain	26.9	28.9	27.7	26.1	25.0
Italy	22.5	23.8	22.0	22.1	22.2

The average annual death rate in the registration states was 17.8 per 1,000 in the cities of 8,000 or more population in 1900 and 14.3 per 1,000 in rural districts, which, as the term is here used, includes everything outside these cities. The average annual rates were lowest in St. Joseph, Mo. (7.6); Owosso, Mich. (10.1); Lincoln, Nebr. (10.4); and St. Paul, Minn. (10.5); and highest in Charleston, S. C. (31.3); Wilmington, N. C. (28.2); and Jacksonville, Fla. (28.1).

THE SEVENTH INTERNATIONAL ZOOLOGICAL CONGRESS.

THE sixth International Zoological Congress, which met at Berne in 1904, accepted the invitation of the American Society of Zoologists to hold the seventh congress in America in August or September, 1907, under the presidency of Mr. Alexander Agassiz.

The arrangements for the seventh congress are in charge of a committee of the American Society of Zoologists, consisting of Messrs. Alexander Agassiz, chairman; Samuel Hen-