

more ample description with figures of these interesting parasites or commensals.

ROBT. E. C. STEARNS.  
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### National prosperity.

My attention has been called to the comments of Mr. C. H. Leete upon my January article in the *Century magazine*. Mr. Leete objects to making the year 1865 a basis for the comparison of progress. The details of each year were given, and he could choose for himself any year in the series from which to date progress. Perhaps it may be interesting to submit the enclosed more ample table, showing progress from 1870 up to the present date. In respect to cotton, the ante-war crops are given as well as the post-war crops. The gain subsequent to the war, as compared to the twenty-one years previous to the war, has been much greater than before, for the reason that for every cent per pound added to the price of cotton under the slave system, \$100 was

property insured against loss by fire, they represent the progress of the million in the means of common welfare rather than of the millionaire in personal wealth; and that they give testimony to the beneficent law of progress from poverty.

EDWARD ATKINSON.

Boston, Feb. 7.

### Youthfulness in science.

Your article upon 'Youthfulness in science' (*Science*, ix. No. 209) illustrates a most radical defect in our educational system. It does not seem to be the chief purpose to incite the student to weigh evidence and secure accurate knowledge, prizing above every thing the ability to form correct judgments in regard to the significance of observed facts. It is not even assumed that he can have any other feeling in his studies than a selfish desire for personal renown or advancement, respect for or love of truth and knowledge for their own sake being entirely out of the case. Instead of being taught to profit by criticism,

*Per centum of gain in population, production, wealth, and savings, 1870 to 1885, and on some items to 1886.*

To	
1885,	population..... 48
"	production of grain..... 85
"	consumption of cotton..... 86
"	consumption of wool..... 88
"	production of hay..... 100
"	deposits in savings banks of Massachusetts..... 102
"	production of cotton..... 108
1886,	deposits in savings banks of Massachusetts..... 115
1885,	production of iron..... 143
"	insurance of property against loss by fire..... 160
"	miles of railroad..... 168
1886,	miles of railroad..... 192
"	production of iron..... 200

added to the price of an able-bodied slave. The planters could not buy labor fast enough to keep up with the demand. This principle was completely stated in *DeBow's review*; and it was one of the causes which induced the extreme pro-slavery men of the south to attempt to re-open the slave-trade before the war.

Mr. Leete calls attention to the retardation in the gain of population since the war as compared to the previous period from 1850 to 1860. It does not require much thought to comprehend the reason of that retardation.

Mr. Leete asks why progress and wealth may not be predicated on the assessed value of real and personal property. I have endeavored to prove progress in the accumulation of capital without including land. People do not insure land against loss by fire, only property of other kinds. Moreover, the census figures of the past upon these points are all rubbish, as every expert of the census well knows.

It strikes me that Mr. Leete makes a good example of the common saying about statistics,—that one can twist the figures, if he chooses, so as to prove any thing that he desires to prove. No one comprehends this better than the man who is accustomed to compile statistics. The value of statistics depends wholly upon the motive with which they have been gathered, the purpose for which they have been compiled, and an exact regard to truth.

In considering these relative gains, it will be observed that they represent a constant gain in the means of subsistence over population; that, with the exception of the increase in personal wealth, which is indicated by the increase in the amount of

he is led to dread it. Moreover, he finds that his educators, instead of admitting frankly that to err is human, and that all alike must learn to profit by their mistakes, are apparently most concerned in seeking to maintain a reputation for infallibility by contributing nothing whatever to the advancement of knowledge. It is not strange that progress is slow where such a spirit prevails.

M. A. VEEDER.

Lyons, N.Y., Feb. 5.

### Germ of hydrophobia.

I have not observed in your columns a reference to what appears to be an exceedingly important communication by Professor Fol, of Geneva, to the Swiss natural history society, with regard to the bacillus of rabies, which he claims to have isolated.

According to the *Biologisches centralblatt* (Dec. 51), Professor Fol finds that turpentine (even water which has been shaken up with turpentine) acts as an effective germicide when added to pure cultures of this bacillus, and that it is even more effectual than a one per cent solution of corrosive sublimate. He considers, consequently, that turpentine might be used as a substitute for the actual cautery in the treatment of recent bites, especially in places such as the face, where the cautery would produce great disfigurement. No suggestions are made as to application, but if experiments on animals should justify Professor Fol's view, it would be desirable to give it as wide publicity as possible.

R. RAMSAY WRIGHT.

Univers. coll., Toronto, Feb. 3.