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Plutocracy's Statistics

STATISTICAL LIES AND LIARS
Official and Unofficial: Exposed by

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and American Journal of Sociology

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By H. L. BLISS.

INTRODUCTION.

That our political campaigns may not degenerate into campaigns of lying misrepresentation but may be truly campaigns of education, the exposure of misstatements intended to mislead the public becomes of first importance. While there is room for difference in conclusions, there can be no honest difference in the statement of ascertained facts from which conclusions are drawn.

An honest cause needs never a lying defense, but finds in the truth its strongest support. There therefore can be no more conclusive evidence of the wickedness of any cause than the fact that its promoters deliberately and systematically resort to misrepresentation.

Under our form of government, every man being armed with the ballot, it is impossible to rob the people through unjust laws, until the public has first been fooled. The beneficiaries of the injustice of existing social and economic conditions understanding this, and discovering that the most effective way to conceal the truth is to hide it under a statistical table, adopt the statistical method, and base their misleading arguments upon a countless and bewildering array of statistics claimed to be authoritative and indisputable. The exposure of the true character of these statistics and authorities, is the purpose of this pamphlet.

The Official Statistical Liar.

That "it is very easy to juggle with figures" has been admitted by our most eminent statistical authority, Col. Carroll D. Wright, at present in charge of the national figure factory known as the Department of Labor, and lately in charge of the statistics of the eleventh census. While admitting the ease with which statistics may be juggled, Col. Wright at the same time maintains that "As a matter of fact figures will never lie, but liars will figure." (Gunton's Magazine, March, 1896.) That liars have figured in the interest of plutocracy with both diligence and ability may be discovered from investigation not only of what is known as campaign literature, but of official reports of the United States government, supposed to have been compiled in the interest of science. These reports, which can be fitly characterized only as partisan campaign documents, are, because official, accepted as reliable by the many who fail to understand that under plutocratic rule the official statistician is but an official liar, whose tenure of office depends upon his skill and dexterity in the juggling of figures.

As might be expected, we find our most eminent and popular statistical authority, and our most skillful acrobatic statistical juggler one and the same person—the eminent humbug who masquerades as the representative of labor, while in fact the special pleader of a class which has waxed rich and powerful through the plunder of labor.

That officials of statistical bureaus dare not tell the truth is well understood by those on the inside as to such information. The editor of a nominally independent Chicago journal once politely refused to publish a criticism of Col. Wright's humbugging reports, saying that the writer had a prejudice against Col. Wright a mile high, and asking: "What would you have Col. Wright do? Would you have him jump into the lake?"

By this was meant that if Col. Wright should fearlessly tell the truth he would be likely to lose his job.

This idea that the necessity of earning a living can justify a compromise with error has become quite common, and we find not only editors and writers for the press, but preachers in the pulpit and professors in our institutions of learning with bridles in their mouths. Their course is justified on the plea of necessity. A man must live, and he must therefore adapt himself to existing circumstances.

"But is it so? Pray tell me why
Life at such cost you have to buy?
In what religion were you told
A man must live?
"There are times when a man must die.
Imagine for a battle-cry,

From soldiers, with a sword to hold—
From soldiers, with the flag unrolled;
This coward's whine, this liar's lie—
A man must live."

Not only has Col. Wright failed to tell the truth himself, but he has shown his animosity towards officials who have dared to do so, by using his influence to obtain the discharge from public employment of a statistician who in the interest of truth presumed to criticise the Aldrich report and Col. Wright's misuse of the data of that report.

The offending statistician had read a paper before the National Statistical Association at Washington, showing the fallacious character of the summary of the Aldrich report, and of statistics presented by Col. Wright in the Forum of October, 1893. This association, at its monthly meeting of Nov. 13, 1894, passed the following resolution:

"Whereas, Mr. Frederick C. Waite, late special agent of eleventh census, in charge of the Statistics of True Wealth, has presented before the association this evening a paper analyzing the Senate Finance Committee's report on prices and wages, as interpreted by its statistician, and also by Hon. Carroll D. Wright in the Forum for October, 1893, and,

"Whereas, Mr. Waite's paper deals with one of the most important questions of our time; therefore be it

"Resolved, That this association indorse its publication, and appoint a committee of three to present the same to the Finance Committee of the Senate and the Ways and Means Committee of the House of Representatives, respectively, for its due consideration by the said committees of Congress."

The committee appointed under the above resolution consisted of the following members of the association:

Hon. Joseph Nimmo, Jr., LL.D., ex-chief of the Bureau of Statistics.

Hon. Henry A. Robinson, statistician of the Department of Agriculture.

Mr. Armin E. Shuman, special agent of the Eleventh Census, in charge of the Division of Revision and Results.

Col. Wright could doubtless explain why these Congressional committees took no notice of this resolution, and why the public has never been given a fair and honest official summary of the data of the Aldrich report.

Though unable to point out any error in Mr. Waite's criticism and analysis of this report and the statistics of his magazine article, Col. Wright successfully used his influence to obtain Mr. Waite's discharge from employment as statistician in the Department of Agriculture, of which Mr. Oliver P. Morton was at the time secretary. Mr. Waite's fate has doubtless served as a warning to others who may have been troubled with a conscientious desire to tell the truth.

The writer has no other cause for prejudice against Col. Wright but that he has discovered him to be a most dangerous public enemy, who is engaged in striking at the very foundation of popular government, the intelligent exercise of the franchise, whose true character it is a patriotic duty to expose. This duty he has performed to the best of his ability in contributions to the Journal of Political Economy and the American Journal of Sociology, publication of the department of Political Economy and Sociology of the University of Chicago.

The articles in the latter journal, "Eccentric Official Statistis," five in number, were called forth by an extended contribution to that journal by Col. Wright—"Contributions of the United States Government to Social Science" (Nov., 1895), in which this official, while highly commending the statistical publications of the United States government, gave no hint of their grossly misleading character. While these articles in economic journals of recognized high standing have attracted the attention of economic students, and received the commendation of eminent eonomists, they have not reached the general public.

An exposure of Col. Wright's methods seems specially called for at the present time, when his statements are being used in campaign literature as proof conclusive of the beneficence of existing social conditions.

In a campaign document which is being widely circulated by that political party which is largely responsible for existing conditions, Col. Wright's latest report is quoted as showing conclusively a great increase of wages as the result of industrial combinations or trusts. While there may be an honest difference of opinion regarding the effect of such combinations, it seems evident that before basing conclusions on statistics furnished by the Commissioner of Labor it is proper to consider their reliability. Regarding this we find it remarked in this campaign document: "These figures, gathered by Carroll D. Wright, the efficient Commissioner of Labor, who has been at the head of that bureau through five successive national administrations, and whose reports are everywhere conceded the highest credence, show beyond cavil that the 'trust' monster which the Democratic party has conjured up is, so far at least as the wage-earner is concerned, neither more nor less than a political scarecrow."

Though the data for this report are acknowledged to have been obtained from the trust magnates, we are asked to accept the figures given as showing beyond cavil the beneficence of trusts, because Col. Wright's reports "are everywhere conceded the highest credence."

This is very much like asking a jury to acquit a person with a bad reputation, on trial for larceny, on his unsupported testimony that he is not guilty, because of the good reputation of his attorney; and might pass for a huge joke were it not for the

serious fact that the figures of this report are likely to be accepted by many as conclusively settling the question.

The report, which was originally announced through the press to appear about the first of January, has been held back, and finally sprung upon the public in the heat of a political campaign. Is there not an obvious purpose in this? As Col. Wright has undertaken to investigate trusts, let us investigate Col. Wright, and discover, if possible, to how much weight his figures are entitled. Let us see also whether it is true that his reports "are everywhere conceded the highest credence." The writer's articles in the economic journals, referred to, nine in number, were almost entirely a criticism of reports for which Col. Wright is responsible, or of his contributions to popular literature.

Prof. J. Lawrence Laughlin, in Self-Culture, May, 1899, replying to a criticism of his article on the price question, though differing in his conclusions, says: "We are all aware of Mr. Bliss' excellent work on the statistics of wages, and his statements are too weighty to be passed lightly by."

Prof. Chas. J. Bullock, of Williamstown College, the author of an elementary work on political economy used in many of our schools, who had made a critical examination of the wage statistics of Col. Wright's reports, the results of which have since been given to the public, and which will later be quoted, in a personal letter declared that his investigations substantiated every position which the writer had taken on the wage question.

For the further satisfaction of those who may be disinclined to accept the criticisms of official statistics coming from one holding no official position, the writer presents the following letter from an able student of economic questions who but recently held a more exalted official position than that of Col. Wright.

This letter refers to an article in the Journal of Political Economy (December, 1895), in which the writer had criticised an article in the North American Review, "The Wealth and Power of the United States," by Mulhall, in which the English statistician had quoted and compared census statistics of wealth and wages in the same reckless manner adopted by Col. Wright.

"Treasury Department, Office of the Secretary.
Washington, D. C., April 23, 1896.

"Mr. H. L. Bliss, Chicago, Ill.:

"My Dear Sir—I read your article on the "Use of Census Statistics" with a great deal of interest, and fully agree with what you say upon the subject. In my opinion Mr. Mulhall is a very unreliable statistician and economist.

"I at one time commenced the preparation of a paper upon the same subject, but it was never completed, and, of course, never published. Very truly yours, "J. G. Carlisle."

This same article we find approvingly referred to by Prof. Phlen, of the University of California, in a discussion of census statistics of wealth and taxation (Publications of American Economic Association, No. 2, new series).

Fallacious Statistics of Wealth.

Prof. Phlen, without making any reference to Col. Wright's reckless use of census statistics of wealth, shows the error of such comparisons, thus taking the same position that had been taken by the writer in his contribution to the Journal of Political Economy, and later in an article in the American Journal of Sociology (July, 1897). Yet, notwithstanding this incomparability, we find Col. Wright declaring in the Forum (May, 1895):

"I believe that economic and industrial opportunity does really underlie every sort of opportunity and that we are making real progress toward a greater equality of opportunity through the extension of opportunities themselves; and when this statement is supplemented by the single fact that the per capita wealth of the country has increased from $308 in 1850 to $1,039 in 1890, the argument needs little if any further illustration. If the per capita wealth remained the same, then I should subscribe willingly to the idea that social and industrial progress and poverty grow side by side and that the rich are growing richer and the poor poorer."

Again, in his article in the Atlantic Monthly (Sept., 1897), "Are the rich growing richer and the poor poorer?", Col. Wright says:

"If wealth were stationary it would be true that the poor are in poorer circumstances. * * * But wealth is not stationary. Taking the true value of the real and personal estate of this country for each decade beginning with 1850, we find that the total wealth was, 1850, $7,135,780,228. or 308 per capita; in 1860, $16,159,616,068, or $514 per capita; in 1870, $30,068,519,507, or per capita; in 1880, $43,642,000,000, or $870 per capita, and in in 1890, $65,037,091,197, or $1,036."

That these statements as to the increase in wealth are not true is practically admitted by Col. Wright himself in his latest and most pretentious contribution to economic literature, "Outlines of Practical Sociology." This work we find caustically reviewed in the Journal of Sociology (July, 1899) by the editor, Prof. Albion W. Small, head of the department of sociology of the University of Chicago, who shows that Col. Wright not only quotes statistics partially, ignoring those which would tell against his conclusions, but that he actually misquotes and falsifies them.

Prof. Small on Wright.

Regarding Col. Wright's statement as to the increase of per capita wealth, Prof. Small says (page 120):

"On page 311 Col. Wright admits the incompleteness of earlier censuses, but concludes, nevertheless, that 'if the total (of wealth) given for 1850 or 1860 should be doubled, the increase is most gratifying.' The layman who notices this concession at all may be suspicious enough to ask: 'If Col. Wright thinks it might be in the interest of fairness to multiply the earlier figures by two, how are we to know that three or four would not be the fairest multiplier?' But taking Col. Wright's own estimate of allowance, and a brief use of the pencil shows that in his judgment a very moderate apparent increase is 'most gratifying.' If the figures represent only half the total wealth for 1860, the increase was from $1,028 per capita in 1860 to $1,036 in 1890, or only $8. Moreover, we cannot suppress the surmise that if conventional values were equalized in the two schedules, even the $8 per head might vanish. In other words, we find so many incomparable tables in the different censuses that our faith in them as scientific demonstrations of anything tends to the zero point."

In this review of Col. Wright's work Prof. Small, after showing that writer's ignorance of the science of sociology, says:

"The second limitation which seems evident to me is the optimism which contrives to extract from the census cucumber an amount of sunlight that it does not contain. * * * With reference to the United States census and to quantities of official reports that go to make up the 'Contributions of the United States Government to Sociology,' there is ample prima facie reason for the belief among the plain people that officially sanctioned exhibits of alleged facts are not the reliable basis for social conclusions that they purport to be. No man in the United States has a more attentive hearing than Col. Wright when he speaks of tendencies supposed to be attested by official figures. It does not seem to me that, in this book, he has discharged the full obligation which his enviable reputation imposes, for he has not given sufficient warning of the snags in the path of students who seek conclusions in the evidence cited. Col. Wright does not sufficiently emphasize the difference between his belief about tendencies and demonstration of the correctness of his beliefs in official figures. Is it not true that there is enough hocus-pocus of one sort and another in our censuses to make scientific demonstration impossible on many points about which Col. Wright speaks with a good deal of confidence? He may be correct, but the statistical proof that he is correct is not in evidence. Massing the sort of evidence that we have in a way to leave the impression that it amounts to statistical proof is 'practical' from some points of view perhaps, but it is neither philosophically nor scientifically nor pedagogically sound."

Regarding Col. Wright's deliberate falsification of the data of the Aldrich report, Prof. Small says (page 120): "Of all the perplexing conclusions drawn or indorsed by Col. Wright none

are more confusing to the layman than those based on the Aldrich report (pages 228, f.). The author concedes that the report has faults, but to the unitiated the faults of the report itself are venial compared with the faults of experts who build houses of interpretation upon the sands of the Aldrich statistics.

"The mass of wage returns may be too much for non-professional intelligence, but to the uninstructed it seems very remarkable to argue from the series that shows the greatest increase from 1860 to 1891, instead of showing the average increase, or admitting that the evidence does not permit demonstration of the average.

"The inadequacy of the evidence appears in a case like this (page 230): 'In a well-known establishment in the state of Connecticut compositors who worked by the day received in 1840 $1.50; in 1860, $2.00; in 1866 from $2.50 to $3; and the same in 1891.' The Aldrich report contains data for four printing establishments, but one of them in the state of Connecticut (Rep., Pt. 3, pages 330-94). In this establishment no data are given for 1840 or 1860. Col. Wright seems to have used for those dates the quotations for 1842 and 1857, respectively. These discrepancies are probably insignificant. It appears, however, that in 1866 there was one employe only who received $2.50. Col. Wright's authority for stating that the wages in the establishment for that year were from $2.50 to $3 does not appear. He further states that wages were the same—i. e., from $2.50 to $3 in 1891. We find in the tables, however, that of the twenty-nine compositors employed at that period but one received $3, while three received but $2 (not $2.50 to $3). The average for the establishment is put at $2.53, not, as seems to be implied by Col. Wright's showing, $2.75.

The author quotes no wages for 1872 or 1873, the period just before the panic. As a rule they were higher, if I am not mistaken, than in 1891. Col. Wright accounts for the high wages in 1866 by the depreciation of the currency, but the Aldrich report quotes the average premium on gold for 1872 as 109.1. For the Connecticut establishment referred to above, average wages for 1872 are quoted as $3.05½ and $2.53 in 1891. A fall seems, therefore, to be indicated from $2.80 (gold value) to $2.53. Th average pay of all the compositors in the four establishments of the Aldrich report appears to have been $2.55 in 1891, whereas Col. Wright's propositions tend to the impression that the average was much nearer $3. The fall from an average of over $3 in 1872 is not mentioned.

Continuing to quote from the Aldrich report, Col. Wright says (page 230): "A building firm in Connecticut paid journeymen carpenters in 1840 from $1.25 to $1.62 per day; in 1860, from $1.25 to $1.75 per day; in 1891, from $3 to $3.25 per day.

A firm of builders in New York paid carpenters in 1840 $1.50 per day; in 1860, $2; in 1866, $3.50; in 1891, $3.50."

Col. Wright here correctly quotes the data as given for two building-trade establishments, but he has selected the two concerns which furnish the highest quotation of wages of carpenters in 1891, and which show the greatest increase since 1840 or 1860. I cannot, therefore, understand how he is justified in the implications of the following sentence: "Similar quotations could be made for carpenters and painters in different parts of the eastern states." This would seem to mean that the foregoing quotations are representative, but if I am correct in my calculation, the average wage of carpenters in all of the building-trade establishments, nine in number, of the Aldrich report, was, in 1891, $2.75. In like manner, if I understand the Aldrich report, the average wage of the twenty-eight establishments in which carpenters are employed is $2.56. Yet Col. Wright's statement seems to imply that carpenters' wages in 1891 were on the average from $3.25 to $3.50. It would be an endless task to enumerate the different provocations to statistical agnosticism in the Aldrich report, as quoted in the sections under discussion. I do not wonder that employes who have had experiences irreconcilable with Col. Wright's inferences in the trades reported say hard things about professional statisticians."

Prof. Small thus convicts Col. Wright of deliberate lying. And it may be noticed that, although that official is supposed to be the representative of labor, his misrepresentations are against labor. He always tries to make it appear that labor is letter off than an honest presentation of the figures would show.

To Prof. Small's severe criticism Col. Wright has attempted no reply except in a personal letter, to the publication of which he refuses his consent. Yet Col. Wright owes it to the public, if not to himself, to answer criticisms that tend to destroy confidence in our official statistics and statisticians.

Col. Wright attempts no answer because no other answer is possible than the admission that he is the official liar of the plutocratic class, and has faithfully discharged the duties of that office. The writer sincerely regrets the necessity of using the harsh term "liar," but there is no other word applicable to the case.

Child Labor.

The brazen effrontery with which this official falsifies and misrepresents statistics is forcibly illustrated in his attempted demonstrations of a great decrease in the employment of children. Before he had come so completely under the influence of plutocracy, as chief of the Massachusetts Bureau of Labor, in the sixth annual report, Col. Wright said: "There seems within recent times to have occurred a change in the relation of wages to support, so that more and more the labor of the

whole family becomes necessary to the support of the family. If we are right in our surmises that this is becoming more fixed and recognized from decade to decade, it certainly bodes no good to our future. The civilization of the nineteenth century, which seems to especially emphasize the home as its most prominent and valuable institution, should not allow it to become necessary that any but the husband and father should labor for its support and security."

Legislation, such as was advocated by Col. Wright, has undoubtedly had some effect in preventing the employment of very young children in factories notwithstanding the frequent evasion of the law. But now we find them in mercantile establishments taking the places of adults and older children. This is the observation of every one not blind to the truth. Col. Wright, however, has "conclusively" demonstrated that child-labor is rapidly decreasing. All of that officials attempted demonstrations, it may be remarked, are claimed to be "conclusive."

With equal conclusiveness he has also demonstrated a great increase in wages. This he undertakes to show in his recent work, "Outlines of Practical Sociology," and in an article in the Atlantic Monthly, "Are the Rich Growing Richer and the Poor Poorer?" (Sept., 1897.) This article, and Col. Wright's report on the employment of women and children, were criticized by the writer in a twenty-three-page article in the Journal of Sociology (Nov., 1897), to which, for obvious reasons, Col. Wright has not undertaken to reply.

Col. Wright's report on the employment of women and children was made in pursuance of a joint resoultion of the LIII congress. One of the significant circumstances relating to this report is that when presented to congress in February, 1897, the press throughout the country announced that the result of this investigation was the discovery of a great decrease in child-labor. When analyzed the figures given showed the contrary. But newspaper correspondents, instead of making the analysis, seem to have accepted the statement from some source that they considered reliable, that a decrease in the proportion of children employed had been discovered. That Col. Wright is himself the person responsible for this false impression may be inferred from the fact that he not only took no pains to correct it, but has in other connections persistently sought to mislead the public upon the subject. In "Outlines of Practical Sociology," while discussing the child-labor problem, he makes no allusion to this investigation and report of his own department, but quotes instead the juggled statistics of the census as demonstrating a great decrease in the employment of children. These same juggled census statistics were lugged into his report to discredit the results of an investigation of his own department, which, notwithstanding methods evidently intended

to conceal the truth, shows a decided increase in the employment of children as well as of females.

In this investigation complete information was obtained for 931 establishments in two periods, designated as the "former" and the "present" periods. By the "present period" is meant some week in 1895 or 1896 in which the canvass was made; and by the "former period" is meant some week antedating by at least ten years the week selectd for 1895 or 1896. In the 931 establishments furnishing complete data, it appears that the percentages of increase for the different classes was as follows:

Males 18 years of age or over, 63.1 per cent.
Males under 18 years of age, 80.6 per cent.
Females 18 years of age or over, 66.3 per cent.
Females under 18 years of age, 89.1 per cent.

The method adopted, however, was not one that would show the full increase in female and child-labor. For instance, we had in Chicago not many years ago only one department store. Should we discover the proportion of female and child employes in that establishment twenty years ago, when there were no other similar establishments, and compare it with the proportion of these classes now employed in the same establishment, there probably would be discovered no great increase of female and child workers in that establishment. But would that indicate the increase for the city, where there are at present, besides numerous smaller establishments, at least six that are larger than the original establishment was in the former period, and nearly or quite as large as that establishment at the present time?

As was remarked by the writer in the Journal of Sociology (Nov., 1897): "As an attempt to discover the facts as to the employment of women and children this investigation seems an utter and absurd failure.

"If, however, the purpose of Col. Wright's report is concealment, it must be admitted a most effective document." Notwithstanding the methods adopted, the result of the investigation was to show an increased employment of children as well as of females, and so Col. Wright lugs into this report the utterly incomparable statistics of occupation of the eleventh census.

These statistics Col. Wright also quotes in "Outlines of Practical Sociology" as "conclusively" demonstrating a great decrease in child labor. The following table he presents both in his report and in his recent work:

Number and Percentage of Children at Work at the Three Census Years 1870, 1880 and 1890.

Census years and classification of ages.	Males.	Females.	Total.
1870			
Total children, 10 to 15 years, inclusive	2,840,200	2,764,169	5,604,369

Number of above at work....	548,064	191,100	739,164
Percentage of above at work..	19.30	6.91	13.19
1880			
Total children, 10 to 15 years, inclusive 3,376,114		3,273,369	6,649,483
Number of above at work.....	825,187	293,169	1,118,356
Percentage of above at work..	24.44	8.96	16.82
1890			
Total children 10 to 14 years, inclusive 3,574,787		3,458,722	7,033,509
Number of above at work.....	400,586	202,427	603,013
Percentage of above at work..	11.21	5.85	8.57

It will be noticed that there is an apparent change in classification at the census of 1890 of a year. To render the data of 1890 comparable with those of previous decades Col. Wright estimates or guesses that 257,773 should be added, making the number of children from 10 to 15 at work in 1890, 860,786. Col. Wright in this estimate takes no account of an important change in the census classification, of which no mention is made in the census and which can only be discovered by reference to the original schedules used by census enumerators. This change in classification results from a change in the census question as to age. While at the censuses of 1870 and 1880 the question asked by the enumerators was "Age last birthday," at the census of 1890 the question asked was "Age nearest birthday." Public attention was called to this matter in the writer's article in the Journal of Sociology (Nov., 1897), and again in the Journal of Political Economy (Dec., 1899), from which article the following is a quotation:

"The change in the census classification of child workers from 10 to 14 at the last census is not explained. This change destroys not only the comparability of the data with those of previous censuses, but it makes any comparison with the data of the manufacturing census or with those of state factory inspectors impossible. There certainly is every reason why the comparability of the data should have been maintained, and no good reason has been given for the change. Whatever may have been the aim, the result is to conceal the facts as to whether there has been an increase or decrease in the number of children in gainful pursuits.

"The change from 10 to 15 to 10 to 14 makes an apparent change in the classification of one year, but since at one census the age was taken at last birthday, and at the other at nearest birthday, there is in fact a change in classification of practically a year and a half. At the census of 1880 those reported as from 10 to 15 years inclusive really included all children up to their sixteenth birthday, while at the last census the number reported included all up to 14½ years of age.

"Mr. Wright has guessed that there should be added to the

number reported in 1890 257,773, or slightly over 40 per cent, to make a number comparable with the number reported in 1880. * * * From the figures given in Mr. Wright's table there appears a very striking increase in child workers from 1870 to 1880, while his estimate shows a still more striking decrease from 1880 to 1890. The Massachusetts factory inspector reports separately the number of children employed in factories of that state, from 14 to 16 and those under 14. Of the 9,919 employed in 1890, 8,263 were from 14 to 16 and but 1,656 were under 14. This is a proportion of 5 to 1. In 1891 the proportion shown is 6.6 to 1. If we accept this proportion as at all representative, we have the following problem: If child workers from 14 to 16 outnumber child workers under 14 as 5 or 6 to 1, what proportion would child workers from 14½ to 16 be to those under 14½? If we conclude that the number of the older children are no more than double those under 14½, we should have to add 200, instead of 40 per cent to the number 603,013, making the total number in 1890 over 1,800,000, instead of 860,786, as Mr. Wright surmises. This is also but a guess, but it agrees with observation, and also with the recent investigation of the Department of Labor as to the employment of children. It is curious to note that Mr. Wright, in discussing the child-labor problem, makes no reference to this investigation of his own department. This calls to mind that in that report Mr. Wright quoted these same dubious census statistics to discredit the results of the investigation of the Department of Labor, which if it may be accepted as showing anything whatever, indicates a very decided increase in the employment of children."

It is worthy of notice that at the present census the question as to age was, as in the census of 1880, "Age last birthday."

Juggled Wage Statistics.

Having discovered how our great statistical juggler "conclusively" demonstrates a decrease in child labor, let us next discover his method of "conclusively" demonstrating a great increase in wages and take for illustration his article in the Atlantic Monthly (Sept., 1897), where we find our eminent statistical acrobat successfully performing the difficult scientific feat of riding two statistical horses going in opposite directions. Quoting the census and the Aldrich report, Col. Wright remarks: "Fortunately there are facts at hand which can be used in this examination and statements that cannot be controverted." For a controversion of Col. Wright's alleged facts we need go no farther than a presentation of certain statistics of the Aldrich report, which for obvious reasons he fails to quote. In this article we find this report quoted for 1840, 1860 and 1891 only. It is noticeable also that in "Outlines of Practical Sociology" Col. Wright adopts the same method, quoting the census for each decade, and thus supporting the theory of a progressive

increase of wages as the result of improved methods of production, and omitting any quotation of the Aldrich report, save for the earlier and later periods.

HE THUS AVOIDS HAVING HIS ALDRICH STATISTICS CONTROVERTED BY THOSE OF THE CENSUS, OR HIS CENSUS STATISTICS KNOCKED OUT BY STATISTICS OF THE ALDRICH REPORT, FOR THE TWO ARE ANTAGONISTIC.

According to the census, almost the entire increase of wages occurred since 1870, the greatest increase being between 1880 and 1890, while according to the Aldrich report the principal increase was prior to 1870 or 1873.

According to the Aldrich report there was an increase in average rates of wages from 1850 to 1872 of nearly 70 per cent, while from 1872 to 1891 the increase (gold value) was less than 6 per cent, simple average, and according to the statistician's fallacious estimate of relative importance but 10 per cent. THE SLIGHT INCREASE FROM 1872 TO 1891 IS DUE TO FALLACIOUS METHODS OF ANALYSIS WHICH CONCEAL AN ACTUAL DECREASE.

The quotation of rates of wages for 1840 and 1860 in comparison with those of 1891 is an evasion of the issue, for the complaint is not that there has been no improvement in conditions since these years, but that in recent years, with the growth of monopoly, wages have not increased, but decreased, and that the benefits of improved methods of production have not gone to the wage earner. That this complaint is well founded is shown by the data of the Aldrich report, which when fairly summarized shows a decided decrease in average wages.

Replying under date of May 3, 1894, to a communication in which the writer of this pamphlet had called his attention to the manner in which the public was being misled by statistic presented in bulletins of the eleventh census, Colonel Wright said: "You are aware of course that all of the tabulation of the Eleventh Census was practically completed before I took charge of it. If there are glaring errors in it, I am unable to help it because I could not retake the census. My duty is simply to bring the results out in as creditable a way as possible."

In another letter Col. Wright declared himself as responsible only for the collection of the data of the Aldrich report and not for the summary or conclusions which was the work of the Statistician of the Senate Committee.

Yet, as we have seen, Col. Wright quotes the statistics of these reports as "facts that cannot be controverted." Let us inquire farther as to these incontrovertible "facts," and call Col. Wright himself to testify. In an official communication to the Chairman of the Committee on Census United States Senate, ·ted Feb. 15, 1895, Col. Wright, as superintendent of the ·enth Census, said: "The tendency of the questions used in

1880 was to obtain a number of employes in excess of the average number, while it is believed the questions used in 1890 obtained the average number. The questions used in 1890 also tended to increase the amount of wages as compared with 1880. The enumeration of establishments in certain lines of industry was more thorough at the Eleventh than at the Tenth Census. For these reasons the average annual earnings per employe, as obtained from the totals for the two censuses, are not comparable.. Mr. Waite states: 'This great increase is due chiefly to the fact that the census of manufactures for 1880 was worked up upon an entirely different basis from that of 1890. In the former census the officers and firm members were reckoned among the number of hands employed, but were not accredited any wages except in exceedingly few cases. In 1890 the hundreds of thousands of officers, firm members, and salesmen were each accredited with large salaries, aggregating upwards of $300,000,000. Some salaries were equal to that paid to the President of the United States. On the other hand, in the census of 1880 the figures purporting to represent the "average number of hands" were for about half the establishments identical with the "greatest number of hands employed at any one time during the year." In the other half they represented for each establishment the average number employed during the few months when the establishment was running a full force. As a result they were almost always more than the average and often several times the average number as figured out by the methods employed in compiling the census of 1890.'

"In formulating the schedule for the Eleventh Census it was evidently the intention not to perpetuate the errors of the Tenth but to obtain data from which a correct statement could be made as to the true average number of employes engaged during the year and the total wages. . . . After Mr. Porter left the census office the Hon. Secretary of the Interior investigated the matter of the statement of wages, and the great increases shown between 1880 and 1890 did not appear to him to be reasonable. He therefore undertook through the Division of Manufactures, to eliminate the errors and to straighten out the whole matter. In doing this some $60,000 were expended, but without satisfactory results. On taking charge of the census office I took this matter up immediately and, as I have said, everything has been done to give the public the facts as they appear with ample explanation as to their value in all directions."

It should be explained that Mr. Waite had, through the influence of the chairman of the Senate Committee on Census obtained access to the original schedules on file in the census office and had reported the result of his investigation.

Instead of warning the public against deception by the incomparable wage statistics of the United States Census Col. Wright has cited the wage statistics of the Mass. Census as confirming them, though he well knows that the average annual earnings reported in the Mass. Census of 1885 was obtained by

dividing the total amount paid as wages by the total number of employes, and that at the census of 1895 the average number was used as the divisor.

Before farther discussing the Aldrich report it may be well to explain that the report so-called is one made March 3, 1893, by the Senate Finance Committee, of which Senator Aldrich was chairman and that it gave the results of an extended investigation as to prices and wages. The data were collected by the Bureau of Labor and the summary or analysis was made by Prof. Roland P. Falkner, who is also the statistician placed by Col. Wright in charge of a recent investigation as to prices. The results of this latter investigation were given to the public in the March (1900) Bulletin of the Department of Labor.

This latter report together with the Aldrich report was criticised by the writer in the American Journal of Sociology (July, 1900) in an article, the fifth of a series of articles, which is here reprinted.

ECCENTRIC OFFICIAL STATISTICS.—V.

In the March number of the Bulletin of the Department of Labor are data of wholesale prices from January, 1890, to July, 1899, quarterly, with a summary by Roland P. Falkner, under whose supervision the data were collected.

The analysis of the Aldrich report, not the least eccentric of our official statistics, which was the work of the statistician of the present report, has been severely criticised as leading to erroneous conclusions through giving undue weight to relatively unimportant factors. While these criticisms have been mostly of the summary of the wage statistics of that report, similar criticism is applicable to the price statistics of both the Aldrich and the present report.

Fallacious Wage Statistics.

By a fallacious method of giving equal weight to series of wage statistics representing the wages of a single foreman or overseer, with series representing the wages of large numbers of operatives, the report arrives at conclusions indicating an advance in average wages (gold value) from 1873 to 1891 of 7 per cent, whereas a simple arithmetical average, giving equal weight to the wages of all employes, shows a fall in wages for the period of nearly 20 per cent.* In one brewing establishment, which, though an extreme case, may serve for illustration, the wages of the brewer increased from $3.19 per day in 1855 to $23.96 per day in 1891, or 650 per cent. This brewer being put in a class by himself, the increase of his wages is given equal weight with the increase of each of four other classes which in 1891 embraced seventy employes. In consequence of this deceptive method of computation there is an ap-

*See computations of Professor Charles B. Spahr in Present Concentration of Wealth in the United States.

parent increase in wages for the establishment of 165.9 per cent, whereas if we omit from the calculation the class comprising but the one brewer, the average for the remaining classes shows an increase for the period of but 90 per cent. Thus the increase in the wages of but one man is made o nearly double the apparent increase of the wages of the entire brewing industry, for which this establishment stands as the sole representative in tre Aldrich report. Prof. Charles J. Bullock, in the quarterly publication of the American Statistical Association (March, 1899), criticising this report, remarks:

"This typical brewer, who receiver over $6,000 per year, and was certainly worth that amount as a subject for statistical investigation, counted for as much in determining the simple average as 133 laborers included in a single series in establishment 48. The brewer's wages increased 275 per cent between 1860 and 1861. The wages of the 133 laborers increased 29.5 per cent. The report has adopted a method of averaging that gives equal weight to each of these series, and figures out a simple average increase of 152.25 per cent for the 134 workmen. In computing the weighted average for all industries the report makes a bad matter worse. The industry in which the brewer was employed is given a weight of 16, while that in which the 133 laborers were engaged receives a weight of 5. Such a method of weighing made the brewer simply invaluable for statistical purposes."

It may be noted also that in July, 1883, there appears on the pay-roll of this establishment a second brewer, at much lower wages than were paid to the first brewer, but that, instead of following the method adopted with other classes, viz., taking the average wages of these two employes as representing brewers' wages, the report classifies the second brewer separately as an "assistant brewer." The assistant brewer's wages not making a complete series, they are omitted entirely from the computation. By this method the statistical value of the wages of the brewer was preserved.

Fallacious Price Statistics.

Prof. Mayo-Smith, in his recent wark, "Statistics and Economics," in discussing the use of index numbers of prices, shows the effect of giving undue weight to unimportant articles, saying:

"Prof. Falkner, for instance, has twenty-five quotations of pocket-knives out of a total of fifty-four for metals and implements, and a grand total of 223 articles. On the other hand he has but fifteen quotations for house-furnishing goods, of which seven are for wooden pails and tubs. He has but two quotations for vegetables (both potatoes) and four for fish (of which three are for salted mackerel). Undue prominence seems to be given to articles of no very great importance."

To show the effect upon the average of the food group of in-

cluding the latter unimportant articles, this writer further remarks:

"Among the articles which go to form the important index number for food are four kinds of fish. All of these show a rising price since 1860; and the single quotation of codfish gives an index number of 312 for 1891, on the basis of 100 for 1860. The whole index number for food shows a rise from 100 in 1860 to 103.9 in 1891. This is a very interesting fact, because food is a most important article of consumption, and this rise is in marked contrast with the fall of the great mass of commodities. If, however, we exclude the single item codfish, the number for 1891 becomes 99.9, and if we exclude all four quotations of fish which cover simply codfish and mackerel, the number becomes 94.9. That is, the rise of 3 1-3 per cent is turned into the very considerable fall of 5 per cent. In other words, by giving four quotations out of fifty-three to codfish and mackerel, a change of eight points is made for the index number for food."

Referring to the group "Drugs and Chemicals," we find a still more striking illustration of the effect of an abnormal change in price of a single article. This group, which embraces eighteen articles, is represented for 1891 by the index number 86.3, showing a fall in prices for the group since 1860 of not quite 14 per cent. If we omit the single item alcohol, the index number for 1891 becomes 67.2, showing a fall of prices for this group of nearly 33 per cent, a difference of nineteen points. The price of alcohol, which includes a tax of several hundred per cent, is no more indicative of the course of prices than the rise of 650 per cent in the pay of a brewer is indiative of the course of wages. The increase in the one case represents, not an increase in prices, but of taxation, and in the other, not increased pay for the same work, but increased pay for a position of increased responsibility, requiring greater skill and efficiency. Deducting from the price of alcohol, as quoted in 1891, the heavy revenue tax of $2 per gallon, and comparing with the price of 1860, we find, instead of a rise of 311 per cent, a fall of over 50 per cent.

The eccentric methods of the statistician of the Aldrich and present reports we find further illustrated in the food group of the former report, where, besides the four quotations of fish referred to by Prof. Mayo-Smith, we find included as bread eight quotations of different kinds of crackers, with but one quotation of wheat flour. Wheat is entirely omitted from the summary, though ample data of that article are presented in Part II of the Aldrich report. We find also five quotations of salt. Thus salt is given five times and crackers eight times the weight of wheat flour. Though wheat flour fell 27.9 per cent from 1860 to 1891, the average of the eight quotations of crackers shows a rise of 2.1 per cent. From 1873 to 1891 the price of wheat flour (gold value) fell 40 per cent, while that of crackers fell but 8.4 per

cent. At the same time there was a fall of 19.8 per cent in the price of meat. Yet the food group shows a fall for the period of but 9.8 per cent.

Though it has been thought that because of the inclusion of a larger number of articles the index numbers of the Aldrich report are more to be relied upon than others which show a greater fall of prices, the contrary seems true, because of the undue weight given to articles of little importance. Though in his weighted average Prof. Falkner claims to have guarded against error that might result from this cause, he seems but to have made a bad matter worse, as is undoubtedly the case in his weighted wage statistics. For instance, in weighing the wages of employes in the building trades, he assumes that all persons returned in the census tables of occupation as carpenters, masons, painters, etc., have obtained the increase of wages shown in establishments reported in the Aldrich report as "Building Trades Establishments," for which a high ratio of increase is shown. Yet, for instance, of the twenty-two series of carpenters' wages of which use is made in the Aldrich report, only seven are from establishments entitled "building trades," and of thirteen series of painters' wages only five are from "building trades" establishments.

As is shown by the pay-rolls of these other establishments, in which the larger number were employed, the increase in wages was much less than in these building trades establishments, evidently located in large cities where wages had increased with the increased cost of living. Yet by this system of weighing, the statistician estimates that all carpenters, masons, painters, etc., have enjoyed the increase in wages of these establishments shown by the data of the report itself to be non-representative.

As but a small proportion of bread or flour is consumed as crackers, it seems also erroneous to take the relative prices of crackers as to any considerable extent representing the ratio of prices at which flour or wheat was consumed. Neither does it seem correct to assume that all fish was consumed at the relative prices of mackerel and codfish shown in the quotations of those articles. The majority of consumers certainly do not pay Fifth avenue prices for fish. Yet the prices quoted for codfish, which we have found so largely to affect the price average of the food group, are stated to have been furnished by Hitchcock, Darling & Co., Fifth Avenue Hotel, New York. While codfish is thus quoted at 4 cents per pound in 1860, and 12½ cents in 1891, we find on the next page of the report (Part II, page 80) a quotation of codfish, which indicates that the quotation used does not fairly represent the increase in the price in that article. The latter quotation is for pickled codfish, showing it to have been worth $4 per 112 pounds in 1875, and $4 per 112 pounds in 1891. This quotation is stated to have been furnished by the secretary of the Boston fish bureau. As the quotation did not

make a complete series from 1860, it was not used by the statistician in his computation. It, however, goes to show that there was not the estimated increase in the price of all fish. While it is not possible in most cases to verify the data of either the Aldrich or the present report, there seems to be ground in many instances for doubting their accuracy. It seems absurd to suppose, for instance, that with improved methods of production and generally falling prices, pine kitchen tables cost 25 per cent more in 1891 than in 1860. In his paper previously quoted, Prof. Bullock calls attention to the fact that in the wage data seven industries out of the seventeen investigated were represented by a single establishment, and that the increase of wages shown for these industries was considerably greater than for the other industries, and remarks:

"This fact is of significance in two ways. Since the results for these industries, represented by insufficient data, diverge so considerably from the results indicated in other industries, where the enumeration was more comprehensive, we have a positive reason for suspecting that the establishments selected were not typical of the industries to which they belong. In the second place it is probable that the inclusion of figures based upon insufficient data resulted in an exaggeration of the rate of increase of wages between 1860 and 1891, when the report computed a simple average for all industries. The matter was made still worse when the weighted average was calculated. These seven industries were then given weights that aggregated 684 out of a total weighing of 1,945 that was applied to all industries."

One of these industries represented by a single establishment was the manufacture of carriages and wagons, in which there is shown an increase of wages of over 100 per cent; the index numbers being 100 in 1840, 1850 and 1860, and 202.4 in 1891. Fortunately we have in Col. Wright's report on the use of machinery official data which more nearly agree with the observation of persons employed in this industry. It is shown in this report (Vol. I, page 36) that the labor cost of manufacturing one farm wagon of similar construction was $35.35 by the hand method in 1848, and $7.18 by the machine method in 1895. The time occupied in the first instance was 242 hours, and in the latter 48 hours, 17 minutes, 8 seconds. Thus, though the labor was five times as efficient, there was but a fraction of a cent per hour difference in the average wages. For painting the wagon, in which no machinery is used, the time consumed in 1848 was 20 hours, and the labor cost $3; while in 1895 the time consumed was 10 hours and 48 minutes, and the labor cost $1.59. Thus for nearly double the amount of work the average wages received by painters in this establishment were 2½ cents an hour less in 1895 than in 1848. While this is not, perhaps, a fairly typical establishment, the figures are official and show that

by a judicious selection of establishments it is possible to "conclusively" demonstrate either an increase or decrease in the average rates of wages. The same being true, to a considerable extent at least, regarding prices, there seems not a little truth in what has come to be a common saying: "You can prove anything with figures." While the methods of the Aldrich report, as we have seen, tended to minimize or conceal the fall in prices, those of the present report appear to have an opposite tendency.

That Prof. Falkner is aware of errors of the former report is apparent from certain changes of method, as well as from remarks of the present report. For instance: While in the summary of the Aldrich report there were used 223 series of actual and relative prices, the present report presents but 142 series of actual prices, and ninety-nine series of relative prices. The small number of relative-price series is owing to a change of method, whereby, there being several quotations of one article, the average is taken, and one relative-price series obtained. In the former report, as we have seen, there were eight quotations of crackers, all of which constituted a price series; in the present report, with four quotations of crackers, the average is taken, and but one series obtained. With numerous omissions of articles from the present report that were used in the Aldrich report, we find a considerable number included that were not used in the first report. It is noticeable that every article included in the present report, not in the former report, without exception is one showing more or less of a fall in price, and that in many instances the articles omitted, which were in the former report, are those that have risen in price.

It is remarked in this report:

"A continuation of the prices, such as would have permitted a comparison of more recent prices with those of 1860, as given in the Aldrich report, could only be had where the articles remained identical in kind and quality, and where the same sources of information were accessible. The attempt to carry out the new investigation on the same lines as the old one revealed the fact that in many cases the firms and corporations from which the original figures were derived were no longer in existence. Newer firms which had taken their places were often unable to identify the figures quoted in the Aldrich report for the years 1890 and 1891 from material in their possession. This implied that an article of the exact grade and quality which had been quoted by the former firms was not traded in by those to whom subsequent application was made. In many cases the article was no longer in the market. Changes, as for instance in the manufacture of woolens and worsted goods, had made new standards for certain classes of commodities."

The application of the foregoing remark would seem more obvious were it not for the fact that, according to the statement of the articles in the two reports found on p. 238, with few

exceptions the articles omitted from the present report are those easily identified, and which have a market price. The principal change in the group "Cloths and Clothing" is the addition of a number of articles, the only omission being broadcloth and blankets.

There certainly could be no more difficulty in obtaining prices of window glass than of putty, and yet in the group "Lumber and Building Material" we find the more important article omitted and putty included. While putty had fallen, glass, for the period covered by the report, had advanced. In December, 1899, however, there was a cut of from 30 to 40 per cent. It is generally understood that this cut was made in order to freeze out or bring to terms numerous small establishments outside the glass trust.

The other omissions from this group are oxide of zinc, largely used in the manufacture of paints, and plate glass. The prices of these articles are both controlled by a trust, that of the former being considerably higher than in 1890, and that of the latter having greatly advanced during the last two or three years.

To the food group we find added baked beans, and omitted lamb and potatoes; while coffee, which fell in price from 20¼ cents in 1890 to 6¾ cents in 1899, is retained. Such a fall is plainly abnormal, and not indicative of the course of prices. The author remarks (p. 243): "The criteria whether a price is normal are not found in the prices themselves, but in all the surrounding circumstances." The high price of coffee in 1890 was the result of a blight which attacked the principal source of supply—the coffee plantations of Brazil—and the subsequent fall the result of the later abundant production.

It seems an error to have included this price series, and also two price series of spices, nutmegs, and pepper, each of which shows a considerable fall in price. To have taken the average of the two latter articles as one series would be in accordance with the rule generally followed in this investigation. Another exception to this rule we find in steel, the articles steel billets and steel rails being each made a series. Yet, notwithstanding the weight given to these articles, which had considerably fallen in price, the group "Metals and Implements" shows a slight advance from January, 1890, to July, 1899, which is in marked contrast with the fall of 25 per cent. from 1860, and of 35 per cent. (gold value) from 1873 to 1891, shown by the Aldrich report.

The report exhibits the result of a comparison of the ninety articles common to the two reports, showing a fall from January, 1890, to January, 1899, which is but 1 per cent. less than for the articles of the present investigation. This, however, takes no account of the articles of the former report not included in the present investigation, nor of those in the present not included in the former report. Nor does it show the effect of the change from a method which gave so much weight to ·ket-knives, cracks, and fish. It is remarked: "A continuous

series of relative prices for a long period of time, except for a very restricted number of articles, is an ideal which is impossible of realization in practice. From time to time the lists of articles must be revised because of the changing character of our consumption."

Yet the changes made seem hardly in conformity with this idea. In the group "Fuel and Lighting" we find candles retained as a representative of expenditure for illumination, and in other groups articles added that are less representative than those omitted. From the summary by groups it appears that, according to this investigation, what is termed the level of prices had reached the lowest point July 1, 1897, since which time there has been a rise of 16 per cent. to July 1, 1899, a point 9 per cent. below the price level of January 1, 1890.

This report failing to show the great increase in prices during the latter part of 1899, and indicating a decline since January, 1890, has already been widely quoted as overturning the popular impression as to the effect of trusts on prices, and will undoubtedly be frequently so quoted in the coming campaign. It seems at least remarkable that the price quotations of a report published in March of the present year should not at least include prices for the whole year of 1899. Prices for October, 1899, and for January of the present year are certainly those most easily obtained, and would furnish information regarding the recent great increase in prices, regarding which the public is at present most deeply interested.

From the standpoint of those whose primary desire is not the success of this or that political party or economic interest, but that each political campaign shall be a genuine campaign of education, official publications so obviously open to criticism must be regarded as peculiarly inopportune. If partisans allege, as they have not ceased to do in the case of the Aldrich report, that the document before us was prepared for campaign rather than for scientific or economic use, it will be easy to make out a prima facie case in support of the charge. The character and scholarship of the men responsible for the work will hardly be of sufficient weight with the general public to quash the indictment. At other times eccentricities like those which we have pointed out might pass as harmless academic oversights. The eminence of their authors would be a guarantee of their good faith. It is too much to expect, however, that in the heat of a national campaign either party will give the benefit of any doubt to purveyors of such inaccuracies:

No other controversion of Col. Wright's recent report on "Trusts and Industrial Combinations" seems necessary than the foregoing demonstration of the character and purposes of that official.

Prof. Jenks, who is responsible for the analysis of the data, has doubtless done the work entrusted to him by Col. Wright as fairly as he dared to, but it is evident that no reliance is to

be placed upon information gathered from trust officials by Col. Wright and his agents. Fortunately we have other wage statistics more worthy of credence.

Reliable Wage Statistics.

The States of Massachusetts and Pennsylvania obtain and publish annually information regarding their manufacturing industries, those for Massachusetts being very complete and including nearly every establishment of any considerable importance in the State. As the statisticians in charge of the collection and publication of the information are republican appointees these statistics are only open to the suspicion of concealing the full extent of the decline in wages. They cannot be decried as the work of calamity howlers.

The Massachusetts report for 1897 (page 174) presents comparative statistics for 4,695 identical establishments for the years 1896 and 1897, showing average annual earnings as $426.66 in the former and $421.69 in the latter year. The average time worked was 281.03 days in the former and 283.33 days in the latter year. Thus there was $5 less pay for over two days' work more.

The report for 1898 (page 72) gives statistics of 4,701 establishments for the years 1897 and 1898, which show average annual earnings as $422.26 in 1897 and $421.48 in 1898. The working time had increased from 284.05 days to 286.28 days. Thus there was paid 79 cents less for over two more days' work.

The Massachusetts report for 1899 shows that in 4,740 establishments there was an increase in average annual earnings from $419.91 in 1898 to $427.71 in 1899, and that the average time worked was 286.27 days in 1898 and 294.14 days in 1899. Thus for 7.87 days more work there was an increase in pay for the year of $7.80. This indicates a slight decrease in per diem of wages.

The decrease occurred notwithstanding the fact of a greater increase in male than female employes; the increase was, males 10.60 per cent, females 7.63 per cent. The increase in the number of employes of both sexes was 9.58 per cent. In 1898 the increase in the number of employes was 1.80 per cent. In 1897 it was 2.72 per cent.

The Pennsylvania report for 1898 gives comparative statistics of 961 identical establishments for the years 1896, 1897 and 1898, but the report of 1899 makes comparison of but 855 establishments. It seems somewhat singular to find omitted all of the establishments of the clothing industry, nine in number. It does not seem possible that the whole nine could have gone out of business. The average daily wages in these establishments having 3,105 employes was, according to the report of 1898, but 66 cents. This and other omissions from the list of establishments for which comparison is made seems to have been due to a purpose of obtaining a higer average wage for 1899. The following shows the average number of days the

establishments were in operation, the average annual earnings and daily wages for 855 establishments as given in the report of the Secretary of Internal Affairs of Pennsylvania (part 3):

	Days in Operation.	Average Annual Earnings.	Daily Wages.
1896	268	$409.81	$1.53
1897	276	382.94	1.39
1898	286	398.69	1.39
1899	288	432.49	1.50

It should be understood that average annual earnings is obtained in both the Massachusetts and Pennsylvania reports by dividing the total wages by the average number of employes and represents the average annual earnings of only those operatives who are employed during the whole time the establishment is in operation. It will be noticed that while the average wages, as well as average earnings, were higher in 1899 than 1898, the average wages were lower than in 1896. Thus we have in 1899 an increase in per diem wages, according to the Pennsylvania report, and a decrease according to that of Massachusetts. But averages are often deceiving.

The Massachusetts reports cover nearly every manufacturing establishment in the state of any importance and, therefore, come nearer reflecting the condition of wage-earners generally than could be done by a comparison for a few establishments.

The Pennsylvania report shows a larger increase in the number of those employed in the higher-paid industries, notably in iron and steel production. As we have already discovered, the statistician has dropped establishments from the comparison that might show an increase in the lowest-paid employes. Let us, however, take a single industry, one in which there has been a boom, largely owing to foreign demand. Taking the pig iron industry we find the following figures:

	Days in Operation.	Average Annual Earnings.	Daily Wages.
1896	289	$396.30	$1.37
1897	306	414.92	1.36
1898	326	442.32	1.32
1899	327	496.18	1.51

This seems quite favorable to the wage earner for he gets nearly $100 more for his year's work than in 1896 though working 38 more days to obtain it. This is what he gets. Let us see what is the increased value which his labor produces and which he does not get.

The following figures are brought together from page 513 of this report:

	1896	1899
Averaged realized value per ton.....	$11.21	$15.01
Average cost of basic material.....	6.52	5.94
Average cost of labor per ton.....	1.14	1.16

Thus labor receives an increase of 2 cents per ton, while the

employer realizes an increased margin between selling price and cost of labor and material of $4.36 per ton.

Compared with the reports of earlier years according to the Massachusetts manufacturing returns average annual earnings decreased from 1892 to 1898 $30.73, and such earnings were one-third of a dollar less in 1898 than in 1894, the year following the disastrous panic of 1893, a panic which, though world-wide, may in a measure at least be attributed to legislation for which the republican party and its leader are responsible.

Republican Campaign Text Book.

As the advertised advance agent of prosperity McKinley promised an immediate increase in wages and employment. To convince the public that that promise has been fulfilled is the evident purpose of a table of statistics presented in a table of the Republican campaign text book, a most audacious specimen of the unofficial statistical liar's art.

These statistics, said to have been reported by labor organizations, show an increase of wages for different industries ranging from 3 per cent. for glass workers to 1,500 per cent. for stage employes. According to the table presented there was an increase in wages in the latter industry of 25 per cent in 1897 over the wages of 1896, 200 per cent. in 1898 over those of 1897, and on top of this an increase in 1899 of 300 per cent. For nearly every class of wage-earners a large though not equal percentage of increase is shown.

For railway employes the following figures of increase are given:

	1897. Per cent.	1898. Per cent.	1899. Per cent.
Engineers, locomotive	Small	12	30
Firemen, locomotive	..	..	10
Laborers	5	7	10

Conductors, very substantial increase.

On page 692 of the bulletin of the national department of labor for July, 1900, may be found a table of "average daily compensation of all railway employes in the United States," as furnished by the statistician of the inter state commerce commission. As the figures are obtained from the employing railway corporations they cannot be supposed to conceal any increase that has occurred. From the table it appears that the "substantial increase" enjoyed by conductors since 1896 amounts to 8 cents per day, or but 2 per cent., and that instead of an increase of 45 per cent in the pay of railway engineers the increase was less than 2 per cent. The increase shown for firemen, other trainmen and laborers amounts to but .4 cents per day for each class.

The figures, however, take no account of an important element which must be considered in any inquiry as to the relative condition of railway employes. This is the fact that in re-

cent years the work has been nearly if not quite doubled. More powerful engines draw trains of double length with no increase of crew to handle them. The fireman shovels double the amount of coal for the same wages and has lost his opportunity for promotion, for with experienced engineers laid off and waiting for an opportunity to take any extra run his chance to rise has almost vanished. He and the other trainmen are besides unable long to continuously stand the strain of the increased labor of their positions. The decrease in earnings from this cause it is impossible to statistically demonstrate.

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The reports quoted plainly indicate that the measure of prosperity enjoyed by wage-earners in the protected industries of Massachusetts and Pennsylvania since the advent of the present administration is but an increased amount of labor at reduced wages. If there has been any considerable increase in wages outside of the protected industries it must have been in spite of and not because of protection, for the protective policy is claimed to affect such industries only directly through the increased wages paid in protected industries.

The disastrous effect of this policy through fostering trusts and combinations to increase prices is forcibly illustrated by the conditions existing in this city in the building trades. When wage-earners demanded a slight increase of wages to meet the great increase in the cost of living they were met by a lockout, which has thus far been maintained since early spring because of existing high prices for building material. With cheap building material offering a profitable investment in buildings the labor unions could easily have succeeded in enforcing their demands. The result of a policy fostering trusts and high prices has thus been a decreased demand for products at home through the decreased ability of wage-earners to purchase and a growing necessity for foreign markets to be obtained even at the expense of bloodshed and an enormous outlay of treasure, which expense must finally fall upon the wage-earner.

The most reliable statistics indicate not only a fall in wages since the panic of 1893, but that there has been an almost continuous decline from the high wages preceding the panic of 1873, a panic resulting not only from legislation for which republicans are responsible, but occurring during a period of republican rule.

Juggled Campaign Statistics.

As demonstrating the great prosperity of our agricultural class resulting from high tariff enactments we find on page 249 of this "text book," the following table:

Quantities of Wheat produced in the U. S., and of Wheat and Wheat flour exported, and retained for consumption, 1877 to 1899.

(From the Statistical Abstract.)

Year ending June 30—	Production. *a*	Exports of domestic.	Domestic retained for consumption. Quantity.	Export price of wheat per bushel.	Per capita.	Value of crop per acre.	World's production.
	Bushels.	Bushels.	Bushels.		Bush.		
1877	289,456,500	57,044,936	242,812,564	$1.17	5.01	$14.65	Average crop 1,944,000,000
1878..	364,196,146	92,071,726	272,154,520	1.34	5.72	10.15	
1879..	420,122,400	150,502,506	269,619,894	1.07	5.58	15.27	
1880..	448,756,680	180,304,180	268,452,450	1.25	5.35	12.48	
1881..	498,549,868	186,321,514	312,228,354	1.11	6.09	12.12	.....
1882..	383,280,000	121,892,389	261,387,701	1.19	4.98	12.02	.....
1883..	504,185,470	147,811,316	356,374,154	1.13	6.64	10.52	.....
1884..	421,086,160	111,534,182	309,561,978	1.07	5.64	8.38	2,115,000,000
*1885..	512,765,000	132,570,366	380,194,634	.86	6.77	8.05	.....
*1886..	357,112,000	94,565,793	262,546,207	.87	4.57	8.54	.....
*1887..	457,218,000	153,804,969	303,413,031	.89	5.17	8.25	2,434,000,000
*1888..	456,329,000	119,624,344	336,703,656	.85	5.62	10.32	.....
1889..	415,868,000	88,600,742	327,267,258	.90	5.34	8.98	.....
1890..	490,560,000	109,430,467	381,129,533	.83	6.09	9.28	.....
1891..	399,262,000	106,181,316	293,080,684	1.03	4.58	12.86	2,639,746,000
1892..	611,780,000	225,665,812	386,114,188	.63	5.91	8.35	2,414,414,000
*1893..	515,949,000	191,912,635	324,036,365	.80	4.85	6.16	2,559,174,000
*1894..	396,131,725	164,283,129	231,848,596	.67	3.41	6.48	2,660,557,000
*1895..	460,267,416	144,812,718	315,454,698	.58	4.54	6.99	2,562,518,000
*1896..	467,102,947	126,443,968	340,658,979	.65	4.78	8.97	2,488,349,000
*1897..	427,684,346	145,124,972	282,559,374	.75	3.88	10.86	2,226,745,000
1898..	530,149,168	217,306,004	312,843,164	.98	4.21	8.92	2,879,424,000
1899	675,148,705	222,618,420	452,580,285	75	5.95	7.18	.....

a. **World's average annual production estimated by Mulhall as follows: 1831 to 1840, 906,000,000 bushels; 1851 to 1860, 1,198,000,000 bushels; 1871 to 1880, 1,794,000,000 bushels; 1881 to 1887, 2,120,000,000.**

***Democratic and low tariff years.**

This table is so juggled as to conceal the fact that the great increase in wheat production and its price preceded instead of following the enactment of the Dingley law. This large crop, marketed at a greatly advanced price, when there was a great shortage in the foreign wheat crop, occurred in 1897 and not in 1898, as appears from this table, which claims to be a quotation from the United States Statistical Abstract. Comparing the figures of the Statistical Abstract, which may be found on page 329 of that official publication, we find that the "text book" correctly quotes the figures of production, the amount exported and the amount held for domestic consumption, but omits to quote an important foot note which appears in connection with the table: "The production is for the calendar year preceding the fiscal year."

The simple omission of this foot note is the easy juggly by which the whole import of the figures is so changed as to seem to support the Republican contention. The figures of export and the amount held for domestic consumption are for the fiscal year ending June 30. As our wheat crop is not harvested and marketed until later, the export of the fiscal year must be of the

preceding year. This fact is explained in the Statistical Abstract, but concealed in the "text book."

The text book here presents statistics of the world's wheat production which do not appear in the Statistical Abstract. They are, however, apparently a correct compilation from the reports of the department of agriculture, except that they are for the calendar and not for the fiscal year. The prices given are export prices; that is, the price at the seaboard, and not the prices received by the farmer.

We have here the absurdity of wheat 23 cents a bushel higher in the year of the world's largest production than in the preceding year of small production.

It is of course absurd to argue that tariff enactments effect product or the price of wheat, which latter depends upon the world's supply and demand. A large crop in this country, marketed in a year in which there was so great a shortage in the world's product as occurred in 1897, must inevitably result in a high price and consequent increased prosperity for our agricultural class, whether under a low or a high tariff. The Republican argument is not only foolish, but, considering the facts, dishonest. Let us see what truth there may be in the assertion that high prices and increased wheat production have followed high tariff enactments. The McKinley bill became the law Oct. 6, 1892. The Wilson bill went into effect Aug. 28, 1894, and the Dingley bill July 24, 1897.

On page 366 of the Statistical Abstract we find a table of wheat production for the calendar year, together with the estimated average price received by the farmer, the estimated yield per acre, and the value of the product per acre. To save space, I quote only price per bushel, yield per acre and produce per acre since 1890:

Year.	Value per. bu. Cents.	Yield per acre. Bushels.	Value per acre. Dollars.
1890	83.8	11.1	9.28
1891	83.9	15.3	12.86
1892	62.4	13.4	8.35
1893	53.8	11.4	6.16
1894	49.1	13.2	6.48
1895	50.9	13.7	6.99
1896	76.2	12.4	8.97
1897	80.8	13.4	10.86
1898	58.2	15.3	8.92
1899	58.4	12.3	7.18

The McKinley law was followed by a decrease in price, yield and value per acre. After the enactment of the Wilson bill, we find an increase in price and in value per acre, and following the enactment of the Digley law a decreased price per bushel and value per acre. The correctness of these figures and the falsity

of those of the Republican "text book" can easily be learned by comparing them with the official figures as published in the United States Statistical Abstract. To show how high tariff laws effect the prosperity of the farmer by compelling him to pay increased prices for everything he purchases cannot be attempted in this pamphlet.

That whatever of increased prosperity the farmer may have enjoyed since the advent of the McKinley administration, and whatever of increased prosperity may have come to other classes through the farmer's increased ability to purchase is in any way the result of McKinley's election, it seems impossible to conclude, unless we are ready to believe that that official possesses the supreme power of controlling the elements and making short crops abroad and large crops at home. That he possesses this supreme power we must doubt from the fact that he permitted an enormous increase in the world's wheat production in the year following the enactment of the Dingley tariff.

On page 245 of the Republican campaign "Text Book" may be found another of the juggled statistical tables by which it is sought to humbug the public.

This table we give below.

Exports of Farm Products from the U. S. under three tariffs.

[Compiled from reports of Bureau of Statistics.]

	McKinley law, fiscal year 1894.	Wilson law, calendar year 1895.	Dingley law, fiscal year 1899.
Cotton	$210,860,208	$189,800,645	$210,089,576
Breadstuffs (all)	166,774,558	125,604,486	273,999,890
Provisions (all)	145,262,273	132,456,843	175,508,808
Flour	69,271,760	50,202,886	73,093,810
Wheat	59,470,041	40,808,547	104,269,169
Lard	40,089,721	37,348,753	42,208,465
Bacon	38,338,257	37,411,944	41,557,067
Animals (all)	35,698,180	33,791,014	37,880,916
Cattle	33,455,092	26,907,701	30,516,833
Corn	30,211,154	27,907,766	68,977,448
Beef	16,606,583	16,522,018	28,220,258
Oil cake and meal	8,807,807	7,851,246	9,253,398
Seeds (all)	7,041,035	1,983,804	5,079,806
Cheese	7,180,232	3,401,117	3,316,040
Distilled spirits	5,676,986	1,685,460	2,495,612
Pork	5,087,773	4,430,155	10,639,727
Clover seeds	4,340,822	1,126,618	1,264,922
Hides	3,972,487	2,835,947	929,117
Hops	3,844,194	1,745,945	3,626,144
Tallow	2,766,164	1,207,350	4,367,356
Flaxseed	2,426,284	31,076	2,815,449
Barley	2,379,714	1,485,038	1,375,274
Sugar and molasses	2,200,265	1,886,672	2,963,888
Oats	2,027,934	599,835	9,981,540
Vegetables	1,740,604	1,557,467	2,709,400
Hay	890,503	608,934	858,992
Broom corn	210,742	170,856	185,902
Rye	126,532	247	5,936,078
Total	$907,946,945	$751,833,937	$1,151,006,158

Loss of exports, 1895, ... $156,113,008
Gain in 1899 over 1895, ... 399,172,216

A single glance at this table is sufficient to excite the suspicion of one at all acquainted with proper statistical methods. It will be noticed at once that while for the purpose of com-

paring exports under the McKinley, Wilson and Dingley tariffs, the fiscal year is taken for the Republican tariffs, for the Democratic tariff the calendar year is taken, and that comparison is made of exports of single years instead of the average exports of all years under each tariff. As might be suspected, the compiler of this juggled table found that the exports under the Wilson tariff were less in the calendar year 1895, than in any other year of that tariff. This year is, therefore, taken for comparison with exports for the years of highest export under the McKinley and Wilson tariffs. Examining this table closely, one is at first puzzled at the variousness of the items from which the total exports are obtained.

"Breadstuffs" in our official reports of exports, include flour and wheat, as well as corn, rye and barley, and "provisions" include all articles, as beef, pork, bacon, lard, cheese, etc. Therefore, when we find the item "Breadstuffs (all)" and afterwards flour and wheat and also "provisions (all)" and afterwards lard, bacon, pork and so on through the list we are led to inquire whether the value of all the different items in the table is aggregated to obtain the figures presented as the total of agricultural exports. This we find to be the fact.

This seems a strange statement to be presented by a party which in the past has so strenuously maintained that the way to benefit our agricultural class is to build up the home market so that the farmer may not be compelled to depend upon foreign markets and prices.

Reference to page 197 of the United States Statistical Abstract shows this statement to be untrue; that our exports of agricultural products in the fiscal year ending June 30, 1894, were $628,363,087 instead of, as stated, $907,946,945, and that in 1899 the amount was $784,989,087 instead of $1,151,006,153. The exports shown for the fiscal year 1895 were $553,210,026, which is $7,500,941 greater than for the calendar year 1895. Thus the figures of gain and loss from this unfair as well as unscientific comparison are pure fiction. The large figures of the table are due to the duplication and reduplication of such values as would make what might seem the most favorable showing for high-tariff years. Articles that show larger exports under the Wilson law than under the McKinley tariff are included but once. The variousness of the items of this table we find diversified by the inclusion of, as an agricultural export, exports of distilled spirits, which were, according to the figures given, three and one-half times as great in 1894 under the McKinley law as in 1895 under the Wilson tariff. Distilled spirits, it is true, are made from corn, so also is beer. Boots and shoes are made from hides, why therefore does not our Republican statistical genius include them also as an agricultural export?

While the figures presented are fallacious, it is true that there was a considerable decrease in our agricultural exports under the Wilson tariff. It will be noticed that the year chosen as the

year of highest export under the McKinley tariff was the panic year ending June 30, a year in which there was a diminished home demand because under the high tariff then in force so many of our industrial class were unemployed and without means to buy. It should be remembered that the panic occurred a full year before the enactment of the Wilsow law. Was the ability of our own people in 1895 to consume a larger proportion of our agricultural product than in 1894 injurious to the farmer and is the home market no longer as good as the foreign market?

Along with such statistics and sophistry intended to fool the farmer we find on page 282 fallacious statistics compiled from the Aldrich report and the report of the March bulletin intended to prove not only that the wage earner is enjoying an increase of money wages but a still greater increase of real wages, that is wages of greater purchase power.

If this pamphlet shall serve to call public attention to the true character of these statistics its purpose will have been accomplished.