Weekly State Sentinel.

TUESDAY MORNING, OCT. 23, 1855.

### Democratic Rally at Vincennes.

Mr. Douglas, owing to severe illness, was unable to fill his appointment at Vincennes on the 17th inst. There was, however, a large and enthusiastic concourse of people in attendance, and the occasion was enlivened, we are informed, by able and eloquent speeches, delivered by Lieut. Gov. Willard, Hon. J. L. Robinson, General Linde, of Illinois, Judge Law, and Hon. John G. Davis.

### "Young America vs. Old Fogeyism."

Under the above caption, the New Albany *Tribune* has continued, from number to number, its discussion upon the position occupied by the editor of the *Sentinel*, as contrasted with that of some of the "Fathers of the Republic," among whom many *venerable* personages are cited by name. The pressure of matter relating to the progress of the State Fair has so filled our columns, as to place it out of our power to give Mr. GREGG the attention which we feel it our duty to pay to his puerile argument and his falsification of history. In the course of two or three days our *files will be cleared*, after which we propose to devote *just space enough* to the *Tribune* to prove that its editor has either *maliciously* misrepresented us, and perverted history, or most *stupidly* blundered upon assertions of which he will have good reason hereafter to be ashamed.

However, it will be an easy matter for Mr. GREGG to *crawl out* of any of his *indiscretions*, for which he is unable to offer the apology of youth, by attributing the authorship of the blunder to his *innocent* and *unsuspecting* "LOCAL." About once a week, the *Tribune* is driven to the humiliating necessity of eluding responsibility for its published editorials, by the pitiable subterfuge we have mentioned—a characteristic instance of which is exhibited in a number of that paper now before us, where Nr. G. endeavors to dodge the re-acting effect of the declaration, that, *no matter what may be the principles at issue in the coming contest, he can say for himself and his house, "We will serve* SAM."

Mr. GREGG, however, is growing *old*, and it is, perhaps, ungenerous in us to hold him to a too strict accountability for his frequent *presumptions* upon what seems to him the credulity and ignorance of the public.

### Life and Times of Lewis Cass.

A work under the above title, edited by W. L. G. SMITH, of Buffalo, is now ready for the press, and will be issued, we are informed, in about three weeks.

From the prospectus which has been laid upon our table, we are made satisfied that the forthcoming book will be one of the most interesting and valuable productions of the day. It will embrace not only a Biography of one of the greatest Statesmen of our nation, but also embody an account of the thrilling events through which Gen. CASS, as a party, has passed, and which justly deserve a prominent place in the history of our country. In this department a review will be given of the settlement of the North-West Territory—the Indian Wars and Treaties—the organization of Michigan, and many similar affairs, which cannot fail to interest the Western reader.

The part LEWIS CASS has performed as a Statesman in our national councils, will necessarily render a work of the kind in question one of great importance to the politician, and to all who desire a knowledge of the *modus operandi* which characterize the origin and execution of our Government affairs. The Hero of the work under review has been esteemed—with great justice too—a pillar in the Democratic party. Those who follow, whether Democrats or not, will be always glad to have *his* LIFE AND TIMES before them as a book of reference, in which they may find the *cause* of the success, through half a century, of a man whose wisdom and patriotism have done as much for our nation as any of those sages, fast passing away, whom we associate with the formation of the *character* of our Government.

Mr. JAMES W. GAYLORD has taken the Agency for the sale of the LIFE AND TIMES OF LEWIS CASS, in the State of Indiana, and will make his head-quarters in Indianapolis, where he may be seen or addressed. The price of the book is $3 a copy.

### The Harney Massacre.

The New York *Tribune*, and a host of lesser lights throughout the country, have been administering a castigation to General HARNEY, for the late inhuman (as they call it) massacre of the Sioux Indians. They have represented the General as an inhuman, blood-thirsty monster, and charge him with ruthlessly murdering a band of harmless aborigines who were anxious for peace. Let us see how far the facts in the case will bear them out in these statements.

In the first place, General HARNEY, as gallant a soldier as ever lived, so far from being a blood-thirsty monster and a HAYNAU, as Mr. GREELY has been pleased to call him, is an exceedingly kind and humane gentleman, and almost a woman in delicacy of feeling. In the second place, this same band of peace-seeking Indians are a thieving, man-killing, woman-scalping set of rascals, who have infested the emigrant track for a number of years, and have killed and stolen whenever they have had an opportunity. If they met a body of troops superior to them, they were peace and meekness personified; but let them come across a few defenceless emigrants, who had anything worth taking, and these Sioux gentlemen were out in their war paint, ready to kill and scalp them.

We are very apt to look at the Indians through the veil of romance, and imagine them to be the Chevaliers BAYARD of the Forest; and Mr. GREELY, whose knowledge of them has been obtained from novels, dramatic representations, and wooden images in front of cigar shops, has dealt out his fictions concerning them as facts.

The Indians have no idea of the power of the whites; even those who visit the States dare not tell their people when they return home, the real facts, for fear of being considered liars or bewitched. They imagine that all the United States troops are those quartered at the few scattered forts on the frontier, and that no more can be raised. While they labor under such a mistake it is very natural that they should go on murdering, stealing, and scalping. The drubbing which General Harney has given the Sioux will prove a salutary lesson to all of the Indians, it will show them that they cannot rob and murder with impunity. The news of this battle will spread like wildfire throughout the whole Indian country, and will teach the Indians that their Great Father at Washington can raise enough soldiers to chastise them whenever they need thrashing. General Harney acted perfectly right in not sparing them—had he done so, similar scenes to the Grattan massacre and the cutting off of the mail train would have been repeated. He has proved himself a benefactor both to the Indians and the Whites and we venture to predict that after this for some time at least, we will hear less of "difficulties in the Indian country."

It is doubtless very pleasant to sit down in a softly cushioned chair, by a warm coal fire, in the city of New York, and, after having seen a representation of METAMORA at the Theater, the night before, to work one's self into a fine frenzy about the wrongs of the poor Indian; but let Mr. GREELY, or any other champion of the Indian, go out upon the frontiers, and see that the lives of the whites are only tenancies held at the will of the red man; let him have his scalp removed, his horses stolen, his wife or children killed: let him be waked up at the dead hour of the night, by the war-whoop, and we warrant he will not be quite so philanthropic in future.

The lives of the Indians are no doubt precious—but so are the lives of the whites.—While we are vindicating the cause of the Indian, let us not forget the cause of the white man.

This newspaper attack upon General HARNEY is as unjust as it is foolish. Mr. GREELY and his friends did not wait until they had heard a reliable account of the fight; but commenced immediately, as soon as the first rumors had arrived. However, it is in perfect keeping with the previous course of the editor of the *Tribune*. He is constantly seeking somebody's cause to fight; and, like his prototype, DON QUIXOTE, he generally comes out of the battle appearing more ridiculous than when he poised his lance.

### B. F. Slocumb.

From the last *National Volunteer*, which is now under the exclusive editorial control of our old friend and efficient veteran in the cause of Democracy, Mr. DAVID THACHER, we take the following resolution, complimentary to Mr. BENJ. F. SLOCUMB, offered, it seems, by Hon. S. DONELSON, and passed unanimously at a Democratic meeting held in Shelbyville on the evening previous to the election:

*Resolved*, That we cordially tender our thanks to B. F. Slocumb, Esq., for the brilliant manner in which he has discharged his duty as junior Editor of the *National Volunteer*, and commend him to the fraternal regard of the chivalric Democracy of Mississippi, whither he goes to continue his efforts in favor of the great and national principle of our party.

Mr. SLOCUMB will carry with him, wherever he goes, the best wishes of a host of friends,—friends won to him by his honorable bearing as a man, and his energy and efficiency as a politician and an editor.

From Mr. S.'s valedictory, which we had intended noticing before this, we will now give place to a couple of extracts. He says:

During my brief intercourse with the readers of the *Volunteer*, it has been my aim to foster Truth; forward justly a just cause, and aid in the upbuilding and perpetuity of that which I believed best and wisest in the government of my country. My Democracy has not been a mere identity, but an inflexible, stern, yet proportionate and beautiful reality. It has been with me the Jupiter Tonans of Republicanism, and at its shrine I have offered a pure heart worship. It is still the Democracy which "was cradled in the storms of the last few years of the eighteenth century, and rocked by the hurricane that swept the country at the election of Thomas Jefferson." It is the same Democracy which for the last fifty years has swayed the destinies of this nation, "extended our boundaries from ocean to ocean, borne our country's flag in triumph over sea and land, and made us a great and prosperous country." I have worshipped it as the party under whose protected aegis civilization has performed its first great cycle—under whose control on our continent the Occident and Orient have met, and we have both the rising and the setting sun. In the language of a great orator, "whilst to Europe we gather up the cradled glories of the evening sky, we break upon the East with the jocund glory of the rising morn"—

East and West are gone,
East and West are one.

I have ever regarded it as the party of the PEOPLE—the party of enlarged patriotism and enlightened liberality—advocating no government whose tendency is to swallow up mankind—no dismal charnel house of human rights and human hopes—but seeking to elevate, to encourage and to expand the conceptions of the multitudes on our shores, and thus to build up and perpetuate a true REPUBLIC upon the broad principles that government is made to protect and foster man; a Republic in which humanity is recognized as the chief object of care, by which the hearts of men, "in the gladness of freedom and the outbursts of noble feelings and impulses, may mock the laugh of many waters when the hills clap their hands for joy;" a government which protects but modulates itself "like a garment to the swelling and expanding form of human growth," and in which every one feels like giving and receiving protection and support.

So do I still regard it,—still worship it. In the advocacy of its principles, I have been conscientious in the discharge of a high and noble duty to my country, which stands to-day, in the naked elements of physical power, the first nation upon the earth, with an untold future, and which if wisdom prevails, shall forever stand upon the desert of the world, "like some vast and eternal rock," the anchor of human hope, under whose shadow all mankind shall find protection and repose.

Her present glory and power is a guarantee that the same government under which she has thus grown, will carry her on in her sublime mission of freedom and religion, and in her destiny shall be wrapped up and realized the highest hopes of man. I could not, then, be other than a Democrat—I ask no higher distinction. In the pride and glory of Old Rome, to be a Roman citizen was better than to be a King. In the pride and glory of Young America, where alone is seen and felt the bright and cheering example of the success of Democratic principle in political government, to be a DEMOCRAT is a prouder glory than to be an Emperor. May the time never come when that glory shall grow less, or when the mighty power of our country, wielded by the wisdom and virtue of her people, shall expend itself in mad ambition and internal dissections, or in its huge strength rend itself asunder, as internal fires brake up the solid earth, "and make the sea dry land, and the dry land sea." Let it be the labor and the duty of every patriot and philanthropist to cherish our inestimable heritage and cement more closely each pillar in the glorious fabric. Let us school our hearts and minds to the highest standard of patriotism, and especially endeavor to entertain more good will and charity for our fellow men. We are all Americans—all patriots—let us live in peace and happiness, and each strive to add to the common glory of our land, and perpetuate its fair fame to the end of time. May no desolating hand ever dare despoil it of its power and beauty.

DEMOCRATIC REJOICINGS.—The brilliant democratic victory in Georgia is illiciting the most enthusiastic manifestations in all parts of that State. The Augusta Constitutionalist of Saturday morning last has the following announcement:

"The citizens of Richmond county opposed to know-nothingism, and all persons who rejoice in the brilliant and important victory recently achieved in Georgia in behalf of the constitution and the great and true American principles of civil and religious liberty and equal rights of all citizens, whether native adopted, of this great republic, will meet Wednesday evening next, at 7 o'clock, at the City Hall, to mingle their congratulations on the auspicious result for our State and country of the late elections.

"Let there be a general rally.

"'Let the kettle to the trumpet speak,
The trumpet to the cannoneer without
The cannons to the heavens, the heavens to the earth."

☞We understand that some of our fusion friends allege that the main cause of the result of the election last week, so far as Judge was concerned, was that the people thought "it would be a pity to take Mr. Orth away from his extensive and successful practice at the bar for the sake of conferring upon him an office which John Pettit says will not support a small family." Perhaps the opinion thus expressed is a correct one?—*Lafayette American.*

☞One of our exchange papers, speaking of the candidates for the legislature in one of the counties of Wisconsin, says that J. M. Root is the Democratic, Robert Hogg the Free Soil, and T. H. Dye the Know-Nothing candidate. So, with the voters, we suppose, it will be *Root, Hogg or Dye*, and no mistake.

☞The Albany (N. Y. *Knickerbocker* says: 'They have just opened a public reading room in Schenectady, New York. The contents consists of two almanacs and an old dictionary. The Mayor thinks it will have a tendency to check immorality in the young.'

☞A young gent in Schenectady suffering from a too strong sensation of the more tender feelings, defines his complaint as an attack of *lass*-itude.

### Gov. Wright, of Indiana.

We insert to-day, an address delivered by this sterling Democratic statesman, by invitation of the New York State Agricultural Society, at its Fair held at Elmira, on the fifth of the present month. Originally, our intention was to have laid before our readers extracts, or an abridgement only, but on careful examination, such is the healthful tone of patriotism and devotion to the highest and best interests of our country pervading every part of it—so correct its moral lessons—so important in its agricultural aspect—that we have concluded to give it entire, with the assurance to our readers that it will amply repay their attentive perusal.

Joseph A. Wrigh, the present Governor of Indiana, is, we believe, of Pennsylvania and Philadelphia extraction; but, we have always understood, is a native of the West. For the last twenty five years or upwards, he has been identified with the progress of the State of Indiana, and in fact with the development of the Western States, and his frequent election to offices of high trust in that period, shows the award and appreciation of his services by the most unerring of tribunals in the long run—the people. Whether in questions of National or State policy, of education, agriculture or commerce, or in the great patriotic and constitutional measures of the Democratic party, to which he has always been consistently and firmly attached, Governor Wright has consistently been found in the same position of usefulness and activity, and has, moreover, long since attained to the high reputation of being one of the soundest lawyers, and most accomplished orators of the West.

Independent of the more especial subjects of this important production there is a deeply interesting feature in its sound constitutionality urged in a most conclusive manner, on grounds at once logical and novel. In our opinion, no person can read it to its conclusion, and especially the closing paragraphs, without rising from its perusal more fully confirmed in the love of his country, more deeply imbued with a sense of the importance of maintaining all the guarantees of the constitution, and with an enlarged and renewed sense of his obligations and duties as a man, a parent and a citizen.

The concluding paragraph is a perfect platform. We subscribe to it with a firm and steadfast faith.

"Let the American citizen discharge faithfully not only his national obligations, but his public and private local duties. This can be done in the most effective manner, *by guarding against the slightest encroachments upon the compact* which makes us one people, by a strict observance of law, and by a true discharge of those essential religious, political and social duties which lie at the foundations of society. Let us, like our fathers, be watchful and faithful, at the fireside—on the farm—in the school district—in the township—in the county—in the State. Let us establish and maintain good morals. Let us encourage the growth of the arts and sciences and all branches of useful industry. Let us continue our efforts to advance the agricultural, mechanical and manufacturing interests of the Union. And finally, let us teach the rising generation to love their whole country, and all parts of it,—especially their own hearth stones—their own homes.

Before such enlightened sentiments as these, the proscriptive and fanatical factions, lately so confident and aggressive, sink into mere puny insignificence. These are sentiments, and this is advice, that all men understand, and that all men, especially citizens of the United States, ought to reverence and practice; and so long as they prevail, there is no danger of the Constitution nor of the country, and whenever they are adopted, Republican institutions will find their most efficient advocates and most unflinching defenders.—*Pennsylvanian.*

☞The attention of that portion of our Methodist clergy who have *fallen* into the meshes of Know Nothingism, set for them, doubtless, by the devil himself, is particularly directed to the following article, which we copy from the Vicksburg *Sentinel:*

### Can a Methodist be a Know Nothing?

Under ordinary circumstances, we would not feel justified in asking such a question as this A man's religion should never be appealed to, to influence his politics. It is not however, our fault that the religious element has been mixed up in this canvass. Everywhere, and on all occasions, the advocates of Know Nothingism, many of whom, like Simon, the sorcerer, who bewitched the people of Samaria, are themselves "in the gall of bitterness, and in the bond of iniquity," address all their arguments to the religious PREJUDICES of the community; and if we, in our turn, appeal to what we may call their religious REASON it lies not with them certainly to make objection or complaint. We ask, then, can a Methodist, consistently with the profession he makes, be a Know Nothing? We answer, no. WE PROVE it by citing the following passage in the Discipline of his church:

"As we confess that vain and rash swearing is forbidden Christian men by our Lord Jesus Christ, and by James, His apostle, so we judge that the Christian religion doth not prohibit, but that a man may swear when the magistrate requireth in a cause of faith and charity, so it be done according to the prophet's teaching in justice, judgment, and truth."

This "Article of Faith" is avowedly based upon what is said by our Saviour in Matthew, v. 34:

"But I say unto you, swear not at all; neither by Heaven, for it is God's throne; nor by the earth, for it is His footstool; neither by Jerusalem, for it is the city of the Great King. But let your communication be, yea, yea; nay, nay; for whatsoever is more than these cometh of evil;" and on the injunction in the General Epistle of James, v. 12: "But above all things, my brethren, swear not, neither by heaven, neither by the earth, NEITHER BY ANY OTHER OATH: but let your yea be yea; and your nay, nay; lest ye fall into condemnation."

The Methodist Church, it is true, does not construe these passages in the strict sense in which they are taken by the Quakers; but certainly it considers them as prohibiting and reprobating all such extrajudicial oaths as are found in the Know Nothing ritual. The "Discipline" is conclusive on that point. In addition to what is there said, we quote the following passage from the commentaries of Doctor Adam Clarke, in his day and generation, an honor to the learned world, and the brightest ornament to the Methodist church:

"He that uses *any oath*, except that which he is solemnly called by the magistrate to make, *so far from being a Christian*, does not deserve the reputation of decency or common sense."

What can the Methodist Know Nothing have to say in reply? Nothing. Like a sheep before its shearers, he must stand dumb. And if so, what is his imperative duty as a conscientious man to do? Clearly to remember from whence he has fallen, and repent, and do his first works over.

HON. MIKE WALSH ON HIS TRAVELS.—Hon. MIKE WALSH, a member of the last Congress, and now on a tour through England, is writing home some characteristic letters, which are published in the New York Herald. He thus describes a visit to a political club or society in Liverpool:

From a little printed bill which was handed me, I learned that among the questions to be discussed by the society were the following:

"Does the human race spring from one pair?"

"Would the spread of education tend to diminish crime?"

"Is the faculty of reason confined to man."

"Are the people politically prepared for an extension of the suffrage?"

The latter was the one then under consideration, and my sturdy-lunged friend who had just sat down, had been sustaining the affirmative side of the question, in reply, as I learned, to a tall Scotch tailor, who was smoking a pipe, on the left of the chairman. A little shrivelled fellow, with a keen eye, and armed with a most formidable pile of documents and elaborate notes, next entered, in opposition to the extension. He had evidently read a great deal, but did not seem to understand his subject. Nearly all his illustrations, though seemingly conclusive, were easily turned against himself; and after a very tedious discourse, in which he made the most sweeping misstatements against our people and government, he closed by saying that, although fully conscious that his positions were unassailable, he should have no objection to hearing his strange friend (referring to me) make the attempt. Accepting the invitation, I arose, and was greeted quite warmly by the almost despairing friends of the suffrage, and, believe me, if ever I came down on any one with deserved and withering severity, I did so on this occasion. As I proceeded, our side became gradually flushed with exultation.—Scouts were sent out to bring in the faithful, and ere I had got through, the whole hall, stairway, and lane in front were filled with attentive and enthusiastic listeners, and as I closed, such a shout—so long and so deafening, was never before heard in the region of Limekiln lane. Even the old wind-mills re-echoed the prolonged cheer of triumph which rent the air. Finding all excuses utterly useless, I accompanied a large detachment of my delighted adherents into a tavern close by, and, much against my will, emptied some half dozen pots of the worst beer I have tasted in England, before I could get away.

☞The following tribute to our predecessor is paid by the editor of the Washington Evening *Star:*

A NEWSPAPER MAN ELEVATED.—We are gratified to see by the Indiana papers that our old friend Austin H. Brown, formerly pay clerk of the Sixth Auditor's office in this city, and more recently proprietor of the *State Sentinel* at Indianapolis, has just been elected Auditor of Marion county by a majority of 494 votes. This county was carried for the Fusionists last year by 600. We are always pleased to see our brethren of the press duly appreciated, and in this case particularly so. The office is worth some $2,500 per annum, and the term is four years.

☞The following poem accidently appeared in our columns, a few days since, without having undergone a careful reading of the proof, and contained, as a consequence, many typographical errors. We re-publish it again in justice to the author:

From the Daily Louisville Times.

### RETROSPECT.

BY O. EVERTS.

Once more I walk, where in my boy-hood days
I loved to stroll beneath the shade of trees
Which spread their massive arms and generous hands,
Wide out above the grass and violets
That grew below, and smiled like innocence,
Protected from above.

Here the hill-side—
Here the winding stream, still wandering on,
Like us, toward the great abyss—and here,
The very spot on which I sat so oft,
And dreamed of that I dare not think of now;
While yonder, decked in gaudy roses, with flowers,
Blushing and dewy garlanding her brow,
A bounteous maid the spoiler had not wooed
When first I saw—the lovely Prairie lies,—
And yet how changed!

The hill-side slopes not now so gracefully,
The trees have vanished from their ancient realms—
The stream is made to labor on the wheel,
With murmuring manfold, and sighs, and groans—
The grass and violets have been plucked up—
Deep furrows wrinkle over its care worn brow,
And fences staked and bristling stand along,
Looking defiance upon either side
And yonder now, the beauteous maid has grown,
In these few years, a grandsire gray and old,
Despoiled of all her beauty!

Oh, how sad!
How mournful to the eye of him, who gazed
With rapture, and a sense of joy inwrought
Upon the dearest tissues of his soul
By Nature's all-pervading harmony,
Thus to behold the ruin and the change,
Which man, though for a purpose, here hath made,
Perhaps in vision, and through all the curse
Here was Youth's Eden! Here the garden grew—
The wild fruit and the bloom—the busy birds,
With voices full of melody and love,
Mingling their praise with incense of sweet towers
Ascending through the leafy portals up
To greet the coming of the glorious morn!
Here the Elysian fields, where hope, like beer,
Grew heavy-thighed upon the blissful sweets,
And flew away to build its myriad cells
In fancy's airy castle!

Here the lovely bower,
Wherein the moist-lipped Anos first appeared,
Leading in gulse of day-dream her I loved,
Bidding me kneel and worship, while he threw
The rosy meshes of his flow'ry net
And gave me captive to her gentle hand—
Alas! alas! that youth was banished, and
Love too, is gone!

Yet, while my soul I send,
Through memory's wide reach in search of those—
Here, let me turn my gaze within awhile,
And mark there, too, the havoc of those years
That bounded off across the plains of time,
Like untamed conversers of their native soil,
Unchecked, unfettered by the hands of man,
As God has willed them!

What see I there?
Ah! worse than on my native hill the change!
The trees of friendship which in youth's warm days,
Budded and leafed, and sheltered my heart-flowers,
Have fallen!—withered some—still standing there,
A melancholy sign of what was once,
On whose bare arms the moody night-bird sits
And fills the vacant chambers of my breast
With sounds of mockery!

My heart itself then fresh and vigorous,
As pure and innocent as nature gave—
The stream runs through it still, but labors now
With murmurs manifold, and sighs and groans!
Deep furrows too, the passions long have plowed,
In which the seeds of better thoughts are sown—
The grass and violets have been plucked up,
And fences staked and bristling stand along,
And look defiance upon either side,

Oh, how sad!
How more than mournful! I forgive the hand
That stripped the hill-side, and that held the plow—
That staked the fields about, and plucked the grass—
That chained the stream to labor on the wheel:
But he who wrought these changes in my breast—
That have power to pluck, and sever it full of tares,
And left it naked to the winter's cold—
That crippled love, and banished innocence—
Him will I not forgive! say! who did it?
My soul refusing from the mystic strain
Of far off memory, resumes its clay,
And answers with a voice that startles me,
"*Forgive! ten thou be saforgiven!*"

LA PORTE, Ind., Sept. 1855.

## ADDRESS

### Of Prof. J. J. Mapes at the Indiana State Fair, 1855.

The Professor announced, after some preliminary remarks, that he would speak on the subject of the "Importance of Drainage and Subsoiling." The earth was originally made of rock, but frost and heat and other influences had caused it to crumble at the surface, thus creating the soil that covers the earth. This process, instituted by nature, must be continued by man to preserve or create fertility in the soils.

I claim that the same principles made use of by nature in the original formation of soils or the *debris* of rocks, should be availed of for the continued communication of the particles of soils; for we may view every pebble stone and grain of sand, as requiring the same operation of Nature's laws to cause it to give up the inorganic constituents of plants, pent up within itself, as did the original rock from which it came.

We also claim that the crops distinctly depend upon the quantity of surface of particles presented for a mospheric influences, and so conditioned as to be readily permeated by roots in search of their constituents. It is well known that some pebble soils, which in practice are barren, have the same composition as the finely divided soils of the Miami Valley, and which last are of most fertile character. It is evident, therefore, that the mechanical division of the soil, and its presentation to the continuance of the action of Nature's laws, is a question of degree, as applied to its capability of furnishing the pabulum for crops; and, therefore, the deepest cultivation, and the greatest amount of atmosphere, with a proper degree of humidity, which can be brought in contact with the surface of the greatest number of particles, is that which must prove the most profitable. And it is a mere question of cost, as to the greatest depth to which these conditions may be furnished to the soil.

The use of under-drains, then, is not merely to rid the soil of excess of water; for its temperature will depend in part upon the quantity of air which shall pass through it. Under-drains therefore, are useful to the soil, by enabling air to circulate between its particles; and it is for this reason that under-drained soils, so arranged that every alternate drain shall be opened at both ends to the atmosphere, will present the anomaly of alternate good and comparatively indifferent crops.

I would say down, then, the following self-evident propositions:

1. The removal of excess of water by under-drains, permits the free access of air.

2. The chemical changes necessary to liberate the inorganic constituents pent up in the particles of soil, go on more rapidly.

3. These portions of the soil known as alumina and carbon, receive larger amounts of ammonia and carbonic acid from rains, dews and atmosphere, than in soils not so prepared.

4. Roots will permeate such soils to greater distances, and hence come in contact with larger amounts of such constituents as are required for their food, than if the soil was not so prepared.

5. The temperature of the soil is materially elevated by under-draining and sub-soil plowing, thus giving a longer season, and rendering the soil capable of earlier plowing.

6. The carbonaceous portions of the soils become increased by the decay of a greater amount of roots.

7. Less manure is required to fertilize soils so prepared.

8. Thoroughly prepared soils never suffer from drouth.

9. A less amount of seed will produce a maximum crop.

10. Sub-soiled meadows never run out.

11. Deeply disintegrated soils become darker in color.

12. A large class of weeds are destroyed by a thorough deepening of the soil, including all those which frequently occur in sour and wet soils.

13. Under-drained and sub-soiled lands do not compact after plowing, from rains, to the extent that is noticeable with ordinary plowing only.

14. The increased amount of crops consequent upon such preparation, will enable the farmer to pay ten per cent. per annum, or more, upon the cost of the under-drained, from the increased ratio of crops, beyond the expenses of their production.

15. Soils so prepared will improve more rapidly than any others, even beyond the improvement of the first few years, which goes to reimburse the original expense, and thus, in perpetuity, increase the value of the land, more than the whole cost of the under-draining.

16. The net profit of twenty consecutive years, by under-draining, is double—the excess crops leaving no portion of the expenses to bear upon them, other than in their harvest, from increased quantity.

THE FIRST PROPOSITION.—The removal of the excess of water by under-draining permits the free excess of air, is self-evident; for while the space between the particles is occupied by water, even the heavier portions of the atmosphere—such as carbonic acid—held in it, cannot enter the soil, but after its removal, the atmosphere not only is depositing its heavier portions in the soil, but the current of air which must be continually passing through under drains is leaking through the tile, and thus rising up through the soil; for if both ends be open the current of air through the drain is at times sufficient to blow out a candle at the more elevated end, and thus a change of atmosphere between the particles must be continually taking place.

SECOND.—The chemical changes necessary to liberate the inorganic constituents pent up in the particles of soil, go on more rapidly.

It is evident, first, that by the presence of atmosphere, and a proper degree of humidity, roots and other organic matters in the soil, will be more rapidly undergo decomposition. This has evidence in the fact that every fence post decays more rapidly at its earth-collar, or where the moisture of the soil and the atmosphere, by their combined efforts, may cause its decay. And thus we often find a post rotted off at the surface of the soil, while its lower end has remained comparatively sound. These conditions exist in all parts of properly under-drained soil, from the fact that both air and moisture are at all times present among the particles. The changes in the inorganic portions are also going on with redoubled activity, for as fast as oxydation of surfaces takes place, and they become soluble of water, these soluble portions are carried, by the activity of capillary attraction, etc, to new surfaces. And these chemical changes can only occur by such transportations giving rise to new formations. Thus a feldspar particle yields up a portion of potash, which may be removed to a particle of silex, thus forming the soluble silicate of potash, so valuable in coating and giving strength to straw. Acids are brought in contact with alkalies, and all soluble inorganic material are presented to each other, so as to render the conditions for the different required chemical changes.

THIRD.—Those portions of the soil known as alumina and carbon, receive larger amounts of ammonia, and carbonic acid from rains, dews, and atmosphere, than in soils not so prepared.

Our readers are well aware that both alumina and carbon have the power to abstract ammonia from the atmosphere, and to retain it until consumed by plants, nor will it be removed from the carbon and alumina by water passing down over their particles. The quantity of ammonia thus abstracted from the atmosphere, must be in proportion to the quantity of atmospheric air that may be brought in contact with these absorbing particles, which must be materially greater in well aerated soils than in those that have been less thoroughly disturbed and divested of stagnant water. The dews and rains, also, while passing through the atmosphere, receive those gases which result from decomposition of all kinds on the earth's surface; and when they enter an under-drained soil, they readily pass down, instead of running over the surface. In passing through the soil, they are robbed of these gases by the carbon, alumina, oxyde of iron, and by the other ingredients are capable of receiving and retaining them.

FOURTH.—Roots will penetrate such soils to greater distances, and become in contact with larger amounts of such constituents as are required for their food, than if the soil was not so prepared.

The former propositions render it evident that a larger amount of food prepared for plant use, does exist in a deeply tilled soil properly aerated by under-drains, and the use of the sub-soil plow. It is also evident that the mechanical condition of such soils cannot be as compact as those subfused with water—in other words, that they are looser—therefore that the roots of plants can travel to greater distances without overcoming in contact with a cold sub soil, which would disease their terminal and prevent their increase. Practically, roots will travel in a soil loosened to a sufficient depth, to an average of thirty-four inches—while all fluids in passing through that depth of soil will be robbed, by the alumina and carbon, of all their manurial constituents. Practically, plants grown on under-drained and sub-soiled land, have a greater number of termini to their roots, and are of greater length.

In order to ascertain the length of the roots of corn, I planted a stalk in an artificial mound, some feet higher than the earth, and when grown, fastened it to a stake, and then, by a stream of water, washed the mound away, so as to leave the roots perfect in their entire length. I found that they averaged *five and a half feet.* And if the soil be broken up to the depth of out five or six inches, some four feet or more of root, and all the power of contributing to the nourishment of the stalk possessed by it, are lost. Corn cannot attain its full size or excellence in poorly prepared soils.

FIFTH.—The temperature of the soil is materially elevated by under-draining and sub-soil plowing, thus giving a longer season, and rendering the soil capable of earlier plowing.

Every observer is aware that the atmosphere, during the growing seasons of the year, is warmer than the soils, and therefore the larger the quantity of atmosphere that passes through the soil, the higher must be its temperature; and, in some instances, the temperature of the soil has been raised ten degrees, as compared with adjacent soils not similarly treated. Dews and rains, also, during summer, are much warmer than the soil, and in passing through it part with that heat beneath the surface, instead of doing so while running over the surface, as in shallow ploughed land.

All the chemical changes which occur in the soil which are increased as before described, give out heat, and this tends to elevate the temperature. The more rapid and constant decay of organic matter also tends to blacken the soil, and thus render it capable of receiving the sun's heat to a greater depth. The freezing of such soils will be found to occur to a less depth than in shallow ploughed land, for when winter approaches, as at all other times, it contains no excess of water to be frozen; and during winter, the melting of snow and ice can pass down through the soil, and be delivered at the under-drains, instead of being frozen when occupying the spaces between the particles of the upper portions of the soil.

Soils not under-drained, are rendered cold by the evaporation of excess water from the surface. The *rationale* may be thus understood. If we wet our hair, and then fan it, the head will be cooled; for as the water becomes vapor, it takes present heat from the head, rendering it latent. If a bottle of water be surrounded by a wet towel, and placed in a draught of air, the evaporation from the towel will cool the water in the bottle. The same effect, and from the same causes, must occur from a surface-wet soil, where, as when under-drained, no excess of water remaining on the surface, the mass cannot be so cooled.

SIXTH.—The carbonaceous portions of the soil become increased by the decay of a greater amount of roots.

If we admit that larger crops are raised, of course we have more roots as a consequence, and their decay must produce a larger amount of carbon. Practically the soil becomes darker, and by analysis establishes the above fact.

SEVENTH.—Less manure is required to fertilize soils so prepared.

This must be evident, first, because the soil itself is undergoing more rapid chemical changes, and over a greater amount of surface, furnishing larger amounts of inorganic materials required by plants. It also, from its deep disintegration, becomes the storehouse of larger quantities of carbonic acid, and ammonia received from the atmosphere, as well as from the decomposition of a larger amount of roots.—And when other fertilizers are added, they become distributed over a greater amount of surface, and therefore a larger portion is retained than when in shallow plowed lands, their gaseous products, after decomposition, are lost in the atmosphere.

EIGHTH.—Thoroughly prepared soils never suffer from drouth.

During drouth, when the surface soils are dry, the atmosphere necessarily contains the missing portions of water; and whenever it comes in contact with a surface colder than itself, it deposits the water. Thus we find drops condensed on the outside of a cold pitcher; and thus we find tufts of grass growing luxuriantly where fence posts have been removed and the holes filled up with loose earth, even in the driest weather—for the large amount of atmosphere that is passing through under-drained and subsoiled land, must come in contact with surfaces colder than itself, and there deposit the water. When so deposited, it is always highly charged with those gases which are mixed with the atmosphere, and which are retained by the soil.

NINTH AND TENTH.—A less amount of seed will produce maximum crops. Sub-soiled meadow never run out.

This sowing is now common in England, on under-drained, and deeply disintegrated soils. Thus a single bushel of wheat when sown in such soils, will throw out *tiller-roots*, so as to throw up plants covering the vacant spaces; and a few quarts of seed take the place of a bushel. But in shallow-plowed land this tillering will not take place to the same extent; for as soon as one root reaches the cold solid sub-soil, the tillering of the whole plant ceases, and it is for this reason that sub-soil meadows never run out; for if the crown of grass-root be abraded by the feet of cattle, it immediately renews itself by tillering, which would not be the case in shallow plowed meadows.

ELEVENTH.—A large class of weeds are destroyed by a thorough deepening of the soil, including all those which frequently occur in sour and wet soils.

As soils amend themselves by the natural progress consequent upon the uninterrupted application of Nature's laws, as in deeply disintegrated soils, they lose acidity, and thus refuse to sustain these weeds which are of acid character, while the absence of excess of moisture does not furnish the conditions which many valueless plants require for their germination. In addition to which, it may be said that soil properly prepared are so much more easily tilled during the progress of crops, that the greater industry removes all weeds of whatever character they may be.

TWELFTH.—Under drained and sub-soiled lands do not compact after plowing, from rains, to the extent that is noticeable with ordinary plowing only.

If two barrels be filled with sand, the one lightly thrown in, and the other rammed after every shovel full, and the loose barrel then be flooded with water and filled up with sand to offset for the settling, it will be found to contain a larger amount of sand of the two; for when every particle of the sand is suffused with water, so that the entire suface is lubricated, they will settle to the closest fit, and become more solid than any mechanical force, without water, could make them. In under-drained soils, the excess of water being removed and new portions received, even during violent rains, can only compact the immediate surface, for the spaces between particles being all empty, water can pass down without any portion of the soil becoming suffused. In addition to this, all the surface is being humid, the water can travel over them with greater rapidity than if dry. In passing water through dry soil the particle has to become wetted before it will pass the next particle of water; and thus under-drained and subsoiled lands do not compact, except at their immediate surface, and there to a much less extent than shallow-plowed lands, over which the rains pass.

THIRTEENTH.—The increased amount of crops consequent upon such preparation, will enable the farmer to pay ten per cent. per annum, or more, upon the cost of the under-drains, from the increased ratio of crops beyond the expenses of their production.

This is a question which has been practically settled by every farmer who has tried the experiment; and in England, where the Government will advance to any farmer the necessary amount to under drain his land, taking a mortgage for the amount, practice has proved that the increased crop consequent on under-draining, has, in every case, enabled the farmer to pay up the interest, and five per cent. more of the principal, each year, leaving his farm increased in value at the end of the term, more than equal to the amount of the mortgage, while the nation is large is enriched, not only to the amount of the mortgage and interest paid, but by an increased interest for all time. Private companies, with large capitals, are now established in England, for loaning money on under-drain mortgages; and even the owners of hereditary estates are permitted to mortgage for the purpose of under-draining only, practice having proved that the value of the estate is always increased equal to the expense of under-draining.

FOURTEENTH.—Soils so prepared will improve more rapidly than any others, even beyond the improvement of the first few years, which goes to reimburse the original expense, and thus in perpetuity, increase the value of the land, more than the whole cost of under-draining.

This will be readily understood, from the fact that the organic matter must be continually on the increase, from the decomposition of increased quantities of root in the soil, as a natural consequence of increased crops, while the preparation of the inorganic integrants of the soil for plant use, must bear a similar ratio; for upon an increase of carbon must be an increase of permeability to atmosphere, with superior conditions for all required chemical changes. And the experience of the Yester experimenters and others, clearly shows, that with an equal amount of fertilizing material added to that which would not improve shallow-plowed land, the under-drained and subsoiled portions are continually benefitting by increased capacity.

SIXTEENTH.—The net profit of six consecutive years, by under draining, is double—the excess crops leading no portion of the expenses to bear upon them, other than in their harvest, from increased quantity.

This is a practical question, which has been clearly settled by all those who have owned farms drained twenty years ago. It should be borne in mind that but few crops give a net profit to the grower, of more than twenty per cent. of their gross amount; therefore, if the crop be increased twenty per cent., the profit is doub