

## **Sketches of Buchanan's discoveries in neurology.**

### **Contributors**

Buchanan, Joseph R. (Joseph Rodes), 1814-1899

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Buchanan, Joseph R.

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*1/2 Sheep*

*Mammals*

SKETCHES

OF

BUCHANAN'S DISCOVERIES

IN

NEUROLOGY.

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"From the days of Aristotle to the present time, the most powerful intellects have been directed with the most persevering industry to this department of science, and system after system has flourished, fallen and been forgotten in rapid and melancholy succession."—*Combe*.

"Europe which at present possesses libraries filled with philosophical works, and which reckons up almost as many philosophers as writers; poor in the midst of so much riches and uncertain, with the aid of all its guides, which road it should follow—Europe, the centre and focus of all the lights of the world, has yet its *philosophy* only in expectation."—*M. de Bonald*.

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LOUISVILLE:

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1842.

# CATALOGUE OF THE ORGANS.

|                         |                                                                                                                                                                                                                                                                                                                                      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
|-------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| INTELLECTUAL<br>ORGANS. | <p>Reflective—Foresight, Sagacity, Judgment, Wit, Reason, Ingenuity, Scheming, System, Invention.</p> <p>Reflective—Memory, (recent, early, historical), Time.</p> <p>Perceptive—Consciousness, Observation, Sense of Phenomena, Form, Distance, Weight, Color, Order, Calculation, Sense of Force, Light, Shade, Height, Depth.</p> | IGNORANCE.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | <p>Stupidity.</p> <p>Imbecility.</p> <p>Sleep, Blindness.</p> <p>Awkwardness, Adhesiveness, &amp;c. &amp;c. Not having determined upon the nomenclature, the other names of this region are for the present omitted.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
|                         | SENSIBILITY.                                                                                                                                                                                                                                                                                                                         | <p>Sensitive.—Hearing, Galvanic Sense, Magnetic, Electric, Thermal, Hygrometric, Touch, Taste, Smell, Feeling, Pain, Respiratory Sense, Fatigue.</p> <p>Alimentiveness.—Hunger, Thirst, Love of Stimulus.</p> <p>Imagination.—Fiction, Spectral Illusion, Marvellousness, Spirituality, Supernaturality.</p> <p>Ideality.</p> <p>Somnolence, Dreaming, Optical Illusion.</p> <p>Friendliness—Mirthfulness, Imitation, Politeness, Friendship, Admiration, Pliability.</p> <p>Truthfulness—Expression Sincerity, Faith.</p> <p>Benevolence—Devotedness, Sympathy, Liberality.</p> <p>Veneration—Patience.</p> <p>Philanthropy.</p> <p>Hope—Mortality, Immortality,</p> <p>Integrity—Honor, Perseverance, Justice, Gratitude, Fidelity.</p> <p>Love—Conjugal, Parental, Filial, Humanity, Sociability.</p> <p>Modesty—Purity, Effeminacy, Diffidence.</p> <p>Reverence—Servility, Humility.</p> <p>Fear—Indecision, Anxiety, Complaining, Cowardice, &amp;c.</p> <p>Disease.</p> <p>Relaxation—Indolence, Sullenness.</p> <p>Insanity—Idiocy, Childishness.</p> <p>Rashness—Carelessness, Restlessness, Destructiveness.</p> <p>Turbulence.</p> <p>Amativeness.</p> <p>Buffoonery, Animality.</p> <p>Ardor, or Calorification.</p> <p>Conductor Organs—Intellectual, Moral, Selfish.</p> | <p>Hardihood or Insensibility.</p> <p>Temperance.</p> <p>Scepticism.</p> <p>Coarseness.</p> <p>Vigilance.</p> <p>Combativeness, Moroseness, Perverseness, Rudeness, Hostility, Censoriousness, Sternness.</p> <p>Secretiveness, Reserve, Deceit, Suspicion.</p> <p>Selfishness, Acquisitiveness, Economy, Trading, Avarice.</p> <p>Profanity, Irritability, Gambling.</p> <p>Felony.</p> <p>Desperation, Vitality.</p> <p>Baseness, Suicide.</p> <p>Hatred, Cruelty, Misanthropy.</p> <p>Ambition, Moral, Criminal.</p> <p>Pride, Haughtiness, Independence, Self-confidence, Self-esteem, Love of Liberty, Vanity, Love of Power, Tyranny.</p> <p>Firmness, Decision, Intrepidity, Indifference, Moral Courage, Zeal, Spirit of Martyrdom.</p> <p>Health.</p> <p>Energy, Industry, Playfulness.</p> <p>Sanity, Manliness.</p> <p>Cautiousness, Tranquillity, Conservativeness.</p> <p>Patriotism.</p> <p>Chastity.</p> <p>Sublimity.</p> <p>Coldness or Refrigeration.</p> <p>Restraint.</p> |



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a new path, distinct from former systems of mental cultivation; and the time is not far distant, when PHRENOLOGY will become the leading system, and the centre, from which all investigations into the relation of matter and mind, will take their rise.

The discoveries of Dr. Buchanan, (as far as we can understand them,) consist in so enlarging the limits of the science of Phrenology, as to render it applicable to more extended and beneficial purposes. Many whom the *testimony* has convinced of the claims of Phrenology to rank as a science, have been at a loss to discover the *mode* in which its truths could be applied to useful objects, which, in this utilitarian age, is *every thing*, so far as its success is concerned. If Dr. B. should succeed in accomplishing this end, he will render a valuable service to the cause of science. As a gentleman of learning and intelligence, he ranks deservedly high, and from what we have incidentally learned relative to his successful experiments in this city, illustrative of the matters stated in his article, he is (strange though it may seem) capable of producing the singular results which he describes.

#### BUCHANAN'S DISCOVERIES IN CEREBRAL PHYSIOLOGY.

For some months past I have been engaged, during the intervals of professional engagements, in an experimental investigation of the functions of the brain, in which I have been so singularly fortunate, that in the course of a single month, I have been able to ascertain more of its true physiology than has heretofore been acquired by all the labors of all the Physiologists and Pathologists who have ever been engaged in observing and making experiments to ascertain the nature and locality of its various functions.

While the ink is yet wet, with which I record this sentence, I cannot repress the feeling of strangeness with which I view so comprehensive an assertion, when placed in writing, although I know it to be but a naked statement of a *portion* of the facts, which I have ascertained by the testimony of my own senses, and which have been witnessed by many others. These facts, and the experiments in which I have been engaged, have lost a portion of their novelty and wonder with me by frequent repetition; but to suppose that results of such magnitude have been so speedily and correctly attained, and that the promulgation of such discoveries has devolved upon one whom neither years nor official honors have placed in so authoritative a position, awakens many peculiar emotions.

Fortunately, it requires neither rank nor title, nor persuasive eloquence, to secure the reception of these truths. The experiments by which they have been tested can easily be repeated, and cannot leave a doubt upon the mind of any, nor do they suggest any thing for debate. Their reception must be instantaneous.

I am thus prepared to teach the true physiology of the brain; to correct the errors that have heretofore been made, and to give the function of its smallest organs with a precision which it would once have been deemed chimerical to expect. Yet every proposition which I advance shall be accompanied, on the spot, by experimental demonstration, as palpable and satisfactory, even as those of chemistry.

Yet how, asks the wondering and incredulous metaphysician, can this possibly be accomplished? How can the sublime science of mind be degraded, into a mere subject of physiological experiment, and an hour's observation become the substitute for heavy folios of reasoning?

By the simplest means imaginable. It is in my power to excite, in a few moments, any portion of the brain, either large or small; to put that portion into full and vigorous action as an efficient portion of the character of the person upon whom I operate, and then, at will, suspend its action, and excite the action of its antagonist organ, or of any other organ, or group of organs, that I choose to bring into play.

The individual subjected to the experiment becomes conscious of a sudden development of new traits in his character, by the increased strength of the emotions, passions, and intellectual faculties which are excited, or in the sudden diminution of powers which he has been accustomed to exercise. This being an actual change, as efficient as if it had arisen from any other cause, or had been a congenital condition, he is not only capable of describing the change which has been produced, but shows distinctly, in his countenance, manner, and conversation, the influence under which he is acting. But if the curious enquirer does not find himself satisfied in merely witnessing the experiment, or hearing the subject report, he may easily become the subject himself, and feel his various faculties modified at the will of the operator. He may feel that his power of vision is increased or diminished; that his muscular strength is raised or depressed; that he hears acutely or feebly, and that either eye, at the will of the operator, becomes more vigorous than the other, and either hand morbidly sensitive or strangely benumbed. Matters of this kind are obvious to the dullest intellect. Yet in exciting the various passions, they shall be made no less obvious; for they go, at times, entirely beyond the control of volition. Tears pour from the eyes, or the fist is clenched in anger.

As all will soon be able to witness for themselves,

it is needless to describe the results and task the reader's faith with a story by far too improbable, until the demonstration and the *rationale* have been given. Were I now to relate all that I have witnessed, I do not believe it possible any where to find an assembly of men, sufficiently enlightened, liberal, and philosophical, to give credence to my statements with entire unanimity. Indeed, but for the fact that my experiments can be so easily repeated, the knowledge which they have developed, would, like that of most new discoveries, exist only for the benefit of posterity.

Having progressed sufficiently in this matter to be able to present my theory to the public, accompanied by illustrative experiments, I ventured, at Little Rock, to give two public lectures and demonstrations, on which occasions I called forth gentlemen from the audience, and after writing on a black board, in view of the audience alone, the effects that I intended to produce upon them, in each case, I proceeded publicly to the experiment. In consequence of the first occasion, the following article was published in the Arkansas Times and Advocate, and having been copied into other papers, may possibly have met your eyes :

“IMPORTANT DISCOVERY.—Last Friday, Dr. Buchanan gave a lecture, explanatory of a new discovery in the nervous system, by means of which he is able, in some instances, to control both the minds and bodies of his patients. The gentlemen and ladies who have been the subjects of his experiments, declare that they feel the current of their thoughts and feelings changing, from time to time, without the power to prevent it. At one time they think of the past, at another time of the future. Their ideas are sometimes clear, and sometimes confused, beyond the power of collecting themselves. At one time

they are lulled into gentleness and good humor, at another they are transported beyond all self-control, by feelings of a desperate and pugnacious character.

"We have witnessed but few of the experiments ourselves, and consequently are rather skeptical as to the reality of the feelings produced.

"At the public lecture three gentlemen were experimented upon. The first attempt was to produce drowsiness and sleep. In a short time the drowsiness became apparent. The eyelids of the gentleman fell, and his head reclined. His hands became cold, clammy and benumbed. They were agitated by convulsive tremblings, of which he seemed to be unconscious, and he was unable to keep them still. The effect produced being considered rather too powerful, Dr. B., in a few moments, revived him, without going so far as to produce sleep.

"The principal experiment upon the second gentleman was, to cause the thoughts to wander, and excite memory, or reminiscences. In this, the Doctor succeeded remarkably well. At first, the gentleman remarked, that his thoughts were scattering and confused; then, that they were upon his past life; and finally, that he could think of nothing but his childish sports, and the days of his infancy.

"The experiment upon the third gentleman was, to excite his passions, and produce impatience, anger, and resentment. In this, also, the Doctor was successful; for in a few moments his feet and legs began to work in a violent manner, and he remarked that he would like to stamp something. In a moment more he sprang to his feet, with a stern and determined expression of countenance, but shortly recovered his self-possession."

Surprising though these results may be, they have been

attained by means so simple, so rational, and so obvious that, while we lose our wonder at the discoveries, we wonder still more that they should have remained so long unknown. Had some fortunate accident given the right direction to Dr. Gall's labors, the science which seemed to require a century to mature it, might have burst upon the world at once, in full orbéd splendor.

The idea which led to these developments, though long impressed upon my mind, like many other plans to which I hoped a consummation, has but lately been carried into effect. Three years since, I had made important progress in craniological science, and traced the outlines of "the Pathognomic System of Phrenology;"\* but discovering that, by the plan I was pursuing, a lifetime would scarcely be sufficient to re-organize the science, and to test every proposition, I determined, if possible, to find some shorter road to the arcana of Cerebral Physiology. The labor of theorizing, observation, induction, and philosophical combination, might form a system, indeed, of tolerable accuracy; but the lifetime expended in such labors, I foresaw, would be poorly rewarded, as the moral and intellectual organs in ninety-nine-hundredths of the human race, are too feeble to perceive, or to appreciate, the truth of any new discovery. The principles thus discovered, would have to undergo the tedious ordeal of criticism and experiment, by incompetent as well as competent men, before they could receive the proper credit. I could not consent to spend a life in the labor of untying a Gordian knot for the benefit of posterity, but determined to find the sword with which I could cleave it open at once, and bring the most recondite truths palpably before the public eye.

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\*I had printed a prospectus and obtained subscribers to this work, to be issued in five volumes, embracing the whole of the sciences of Phrenology and *Pathognomy*.

In plainer terms, I determined to ascertain the functions of the brain in some simple and direct manner, which would place our knowledge of its functions upon a par with the other portions of experimental physiology. To do this, I determined to excite the different portions of the brain by a galvanic or galvanoid fluid, and calling them separately into action, to watch the resultant phenomena; or, by exciting them in myself, to enjoy at once, a perfect consciousness of the nature of each faculty and its organ. In this attempt, I have met with even a more glorious success than I had ever anticipated.\*

I have discovered the means of exciting, at will, any portion of the brain—any organ, or any number of organs, and of retarding or suspending their action. Even the small perceptive convolutions, on the super-orbital plate, have proved to be completely under my control; and I have many times excited the organ of Form or Calculation, Color or Order, without allowing the excitement to extend beyond the organ which I wished to call into play. In the most susceptible subjects, I find that I have been able to assume the entire control of their character, and operate upon their minds or bodies in the most fantastic manner that caprice could suggest.

Exciting single organs, I urge their excitement to a pitch which might well be termed monomania—a state of excitement entirely beyond the control of the subject, because it is a part of his existing character. Thus I make my subjects alternately laugh and weep; reason profoundly of moral truths, and then, without any reason, draw the fist to strike; express the deepest humility, or self-sufficiency and levity; sit for hours with the greatest

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\* I say nothing of my mode of operation at present, as that will be displayed hereafter publicly—and the experiments, unless conducted by persons who are well acquainted with Neurology, may be managed so as to injure, instead of benefitting, the health.

patience, or leap up with passionate restlessness; express the finest moral sentiments, or assume the manners and feelings of the miser and thief; indulge in eating, and drink strong liquor, or assume a moral dignity, despise sensuality and speak of food with loathing; feel the most exalted moral and religious sentiments, or indulge in levity with an inclination to be vulgar; concentrate the thoughts, by an irresistible impulse, upon some objects before them, or scatter them in utter confusion and wandering; extend their reminiscence back to their earliest days, reviving the memory of almost forgotten circumstances of infantile life, or recal them to the present, and reach on to the future, without the power of looking back to the past; reason, moralize, inquire, or feel an utter vacuity of intellect, and show an almost idiotic expression of countenance; rise with a stern, piercing eye, in the attitude of angry defiance, loll in the most indolent good nature, or sink under an oppressive humility, with eyes continually downcast; obey with reverence every request that I may make, or become impatient, contradictory, and indignant, without any reason which did not exist during their humility; display a monomania of calculation, their whole attention being engrossed in calculating every thing which can be counted—the number of their steps, the stripes of the carpet, the keys of the piano, or whatever attracts their attention; and, when the influence is changed, suddenly suspend their counting and refuse to proceed, however they may be entreated. The subject of this experiment, (Mrs. —,) when excited in the musical organs, would feel an irresistible impulse to sing, and sing with a brilliance of execution which she could not display when left to herself.

They break forth in the most ungovernable merriment, or sit in dogged and ill-natured silence; talk with

surprising velocity, or struggle with almost ineffectual exertion to command the organs of speech; fall into a profound slumber in the midst of company,\* or brighten in countenance and look around, deprived of the power of keeping the eyes closed, as before they were deprived of the power of keeping them open: but why need I prolong the catalogue?

Fancy the human brain a harp, and every string responding to the touch, singly or in combination, as we please, and you have before you a perfect picture of my experiments—a portion of which I have recorded for publication

The question then naturally arises, since the functions of every organ have been ascertained with this precision, and Cerebral Physiology has become on a sudden a science of demonstrable accuracy, whether the existing science of Phrenology is overturned or established by the new discoveries. The experienced and philosophic practical Phrenologist will easily anticipate the answer. Knowing the unimpeachable truth of the body of the science, he knows too, that it is still an inaccurate or imperfect doctrine, when we survey the mass of its details. He finds himself occasionally liable to practical errors, for which he is at a loss to account, and of which he can dispose only, by using the old phrase, so often sophistically applied, "*exceptio probat regulum.*"

As a practical Phrenologist, having wandered farther from the doctrines of Gall and Spurzheim than any other zealous cultivator of craniology, I had to some extent abandoned the use of the established phrenological nomenclature. Believing that the doctrines of Phreno-

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\* I put the Sheriff of Little Rock to sleep in the midst of company, who were talking away merrily, and threatening to rob him of his executions as soon as he was fast asleep.

logy would be for some time a matter of debate, and deeming it rather premature to determine the precise functions of organs by their names, I used and even taught my students the anatomical nomenclature, deeming it more convenient that the name should express the fixed anatomical position of the organ, than that it should express the unfixed and not very precise doctrine of their functions. Seeking the truth boldly, regardless of all systems, I had become distrustful of the established doctrine, and while engaged in making additions to it, was by no means backward in rejecting every thing which did not stand the test of sound reasoning or of craniological observation.

When I found the means of testing all the principles of Phrenology, by inspiring the organs *to speak for themselves*, I was of course eager to learn what was their decision upon the doctrines of Gall and Spurzheim, and what was to be the fate of my own craniological doctrines.

The result has been singularly happy: while the truth of my own views in every essential point has been well maintained, it has been done at as little expense as possible to the existing system. In some instances in which my doctrine departed materially from the doctrine of Gall and Spurzheim, decisive experiments have presented a compromise, sustaining as far as practicable the truth of both; showing that the principles of each, though apparently contradictory, were really just and harmonious, but limited views of the same subject, which a more extensive survey combines into one picture.

In the greater portion of the science, we are struck with the justness of their views. Greatly has my admi-

ration of their genius been enhanced by the accuracy with which they have ascertained, by imperfect and laborious methods, the precise functions of organs, some of which are so small, as to make even an estimate of their size a difficult undertaking.

In some instances, they may have mistaken the location, or the exact function; but that they have not fallen into more gross and essential errors, when exploring a department of knowledge upon which their predecessors could not even enter, demonstrates a soundness of judgment, and an accuracy of observation, which belong only to the gifted men who lead the march of the sciences.

Even in regard to the six small organs, lying upon the super-orbital plate, there is but one inaccuracy, and that of no great moment in a practical point of view.

The most important omission that I have observed in the system of Gall and Spurzheim, was the failure to give a definite location in the brain to the organs of the external senses. To supply this defect, I had given a location to the senses of sight, hearing, and feeling; and had suggested a separation of taste and smell, from hunger and thirst. Each of these discoveries is now established, and the large organ of feeling is subdivided into the organs of four distinct senses.

At the present stage of my investigations, having tested the previous system of Phrenology with my own additions, and having proceeded to the discovery of new organs and analysis of the old ones, I am able to *demonstrate* no less than ninety-one distinct functions, exercised by independent organs in the brain.

I present the following catalogue, as containing the most definite and well established of those which I recognise.

Of the senses, external and internal, I have located the organs of twelve :

- |            |                     |
|------------|---------------------|
| 1 Sight,   | 7 Thirst,           |
| 2 Hearing, | 8 Hunger,           |
| 3 Touch,   | 9 Common Feeling,   |
| 4 Taste,   | 10 Thermal Sense,   |
| 5 Flavor,  | 11 Electric Sense.* |
| 6 Smell,   | 12 Sense of Force.  |

Proceeding then with the various organs in their order of juxtaposition, we enumerate :

[To avoid repetition, we omit the catalogue.]

The bearings of these discoveries upon the science of mind, important as they are, are of far less importance than their medicinal results. The most important developments are yet to be stated.

I have been in the habit of teaching the phrenological doctrine, that every portion of the brain sustained a particular relation to the body, by means of which the circulation and all the phenomena of life are modified through the cerebral agency ; that the paramount influence of the brain gave to the body its peculiar growth, form, and temperament ; that every portion of the body had a specific relation to some part of the brain, upon which it was dependent for innervation, and with which it sympathized in health, disease, and excitement. I had made some progress in tracing out the laws of this innervation, and establishing the relation that existed between each portion of the body and each portion of the brain—thus ascertaining to what classes of disease particular forms of the brain made us liable, or with what portion of the brain and what kind of cerebral ex-

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\*Under the excitement of the Electric Sense, the human hand becomes a most delicate galvanometer. Under its highest excitement, the fingers repel each other, and stand apart, unable to endure contact.

citement each disease was connected—in other words, making a phrenological classification of disease, and of all the phenomena of life.

Having done this, it became my duty when I found the brain under my control, to proceed directly to testing its influences upon the body, and its power of modifying the phenomena of disease, in a curative or an injurious manner. In this, my expectations have been fully and exactly realized.

I have found it perfectly practicable to operate upon the various portions of the body, and stimulate or modify their functions by the appropriate action upon the cerebral sources of their innervation. For instance, in many persons I am able, in fifteen minutes, to excite the gastric action so as to produce an uncomfortable degree of hunger. When, on the other hand, hunger is gnawing, in the same length of time, it may be effectually moved. Mr. L. came into my room, the other evening, under a strong feeling of thirst, to see if I could remove it. In about ten or twelve minutes, it was so completely removed, that he even felt averse to drinking. Having done this, I proceeded to restore his thirst, and in about five minutes he rose to drink.

As I do not now propose to furnish an essay upon the subject, or a description of my experiments, (indeed my time does not permit,) I simply offer, in a dense form, a catalogue of the results which I have already produced, and which may easily be produced again. I am preparing to visit your city, and may arrive nearly as soon as this manuscript will reach you by mail. When there, I expect to proceed as soon as practicable, with a public and a private demonstration of these discoveries, and of other collateral matters to which I need not yet allude.

*Catalogue of effects which have been produced by direct operations upon the brain:*

1. Increase and abridgement of the range of distinct vision, as much as one or two feet. Increase of vigor in either eye, with diminution in the other. Invigoration of either eye, to enable it to open freely, and bear a strong light. Increase of the power of perceiving by a dim light. Increase of the power of bearing a strong light, and seeing in the sunshine. Relief of tenderness and inflammation in the eyes. Restoration of a moderate degree of vision, to a case of six years total blindness, accompanied by cataract.\* Restoration of the power of reading short sentences, to a woman who had been for several years unable to read, accomplished in twenty minutes. Removal of stiffness of the eyelids. Wakefulness; openness of the lids, with difficulty of closing them. Heaviness of the lids; drowsiness; profound sleep.

2. The relief of partial deafness. Increase, or diminution of the faculty of hearing at pleasure in either ear, or in both.

3. Increase of the sense of touch in either hand, singly, or in both; and diminution in either, or both. This is very striking: to one hand, all objects are made to feel smooth; to the other, the finest textures appear coarse and rough. The human hand feels as coarse as a piece of hog-skin.

4. Increase and diminution of the general sensibility of the body; causing one side to be comparatively insensible to touch and pressure, while the other recoils from the lightest touch: one side being very ticklish, and the other insensible to tickling. (The distinction

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\* I have a description of this case, from ten gentlemen of respectability, who witnessed her blindness and her cure.

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left half of the body, and diminution in the right half.\* Restoration of the balance; strengthening the right, and weakening the left, &c.

12. Great increase of heat, especially in the lower extremities—becoming disagreeable in fifteen minutes—reduction of temperature below the pleasant standard.

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\* One of the gentlemen upon whom I have made the most interesting experiments, having made mention of them in a letter, I here present a copy. It is from Dr. J. Lowther, of Clarksville, Arkansas, a respectable and experienced physician:

“I have been the subject of a great many phrenological experiments by Dr. Buchanan, who has been lecturing.

“To detail to you all the operations, and their results, would take perhaps a week.

“Suffice it to say, that by operating upon one portion of the brain, he would make me left handed, so that I would be as strong again in the left, as the right—then he would restore them to a balance. Then he could make me at least one-third stronger in both—lifting heavy chairs above my head, that I could not have lifted much above my knees. He would cause me to see much better out of one eye than the other—hear better with one ear than the other. He could make me a fighting rowdy at one time—then a hero with very elevated sentiments of honor. Then he could touch another string on the instrument, and I would become as pusillanimous as I had been brave before. He would cause another string to vibrate, and hope, the sweetener of life, would respond to the touch—and then I was enabled to soar aloft in the regions of sublime fancy. Then reverence would answer to the touch, and I would behold first the Omnipotence of God, and the nothingness of man—and so on with every faculty. In every instance, he could tell me the results before he would make the experiment.†

“I am in great haste, and must conclude my narrative: but at some future period, I will write you more fully.

“Yours, with respect,

J. LOWTHER.”

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† This is true, and I generally did so in the physiological experiments; but in those strictly phrenological, I frequently left him to decide what faculty, or faculties, had been brought into play, by his own consciousness of the change in his mind. He generally gave a very good idea of the functions of the organ, by describing its effects upon himself, when I placed it under excitement. Being of a very suitable temperament for my operations, I produced the desired effects upon him very promptly. Having once carried him through a round of changes, he exclaimed—“why—you make me a perfect chameleon.”

13. Modifications of the circulation. Raising or depressing the pulse, as much as fifteen or twenty beats a minute, in a *vigorous*, healthy constitution. Producing a small, wiry, or a small, soft pulse, and producing a full and soft, or a full and bounding pulse, in a short time. Accelerating the general circulation, and directing it to the head, chest, abdomen, heart, upper or lower extremities, frontal, or posterior portion of the body; producing, or relieving the congestion of any particular part. (Dr. L., has successfully applied this discovery, in regulating the pulse of his patients.)

14. Relief of dyspeptic pains, and symptoms, in twenty minutes: such as fulness, oppression, and acidity of stomach. Invigoration of the appetite, and sudden removal of nausea.

15. Various affections of the lungs. A congested suffocating condition, produced in six or eight minutes, and relieved in a shorter time. A hurried breathing, and asthmatic symptoms, produced in about fifteen minutes. Free and pleasant respiration, with a relief of these morbid symptoms.

16. Vigorous action of the liver, resulting in copious bilious discharges. Prompt and effectual relief of pains and soreness in the region of the liver.

17. Urination, produced sometimes in three—sometimes in fifteen minutes.

18. Vigorous action of the lower bowels; in one case, resulting in alvine evacuations, after ten minutes operation upon the brain.

19. Relief of mental dullness, and lowness of spirits.

20. General invigoration, and reanimation of the constitution.

These statements being addressed to the medical profession, no commentary is needed to illustrate the

importance of the results which have been thus promptly developed. You perceive, that an agent has been added to our therapeutic list, of extraordinary and as yet incalculable power.

Whatever may be my own opinion, as to the extent to which it may become a substitute for the existing system of medication, I leave each one to draw his own inferences, from the naked statement of facts which I have presented. It shall be my purpose to demonstrate practically, the immense power which has been acquired for *hygienic and medicinal purposes*—for the *treatment of Insanity*—for the purposes of *Education*—for promoting the *general social happiness*, by a due regulation of the passions—for the *reformation of criminals*, and for the *philosophical re-organization of the science of medicine*.

In conclusion, I would offer a word in reference to the wonderful “art, science, or imposture,” which has made so much noise, and excited so much credulity, opposition, debate, and criticism, under the title of *Animal Magnetism*.

I have proven by experiment, that most of the phenomena which have been reported by the magnetists, are real occurrences, and by no means incompatible with the known laws of Physiology, although they derive their explanation from principles which Physiologists have not yet known, and which the magnetists do not appear to have properly sought. Animal Magnetism has been too much a display of wonderful results, and there has not been a sufficient and efficient investigation of the laws, by which those results have been produced. To such an investigation, I have directed my efforts, guided by an improved system of Cerebral Physiology, and I have found no very formidable difficulty. By means of the *Pathognomic laws* and *Phrenological prin-*

ciples, which I have established, I flatter myself that the sunlight of science will soon rest upon this mysterious *terra incognita*, in which the usual laws of Physiology and Psychology, seem at present mingled, confounded, and lost.

JOS. R. BUCHANAN.

August 25, 1841.

DR. BUCHANAN'S LECTURES.\*—It affords us much pleasure to give place to the following card, furnished by a number of our fellow-citizens, to Dr. Joseph R. Buchanan, in testimony of the high estimate they place upon his eminent abilities as an interesting and instructive lecturer on Phrenology. Dr. B. has just concluded his first course of Phrenological lectures in this city; and it is but justice to him to say, that he has done more in the way of making converts to that science, than all the lecturers that have preceded him. His claim to having made many important discoveries in the science, is also fully conceded by some of the most intelligent men of our city. Dr. B. professes, for instance, to be able to excite the different mental faculties, by exciting the particular portions of the brain, said to be the seat of those faculties. He has made a great number of experiments, to demonstrate this new theory, which have been pronounced satisfactory, by some of our most intelligent citizens.

[The resolutions of the class, omitting what is merely complimentary to Dr. B., are as follows:]

*Resolved*, That we believe Dr. B. to have gone far in establishing, by experiment, during the recent course of

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\* From the Louisville Journal.

lectures, the important principle, that the several organs of the brain can be individually excited, so as to manifest, distinctly, in an increased degree, their respective functions.

*Resolved*, That we also believe Dr. B. to have made very considerable advances in Phrenology, in having ascertained the functions of certain portions of the brain hitherto undiscovered, some of which are especially important as controlling the external senses.

*Resolved*, That the zeal and unwearied assiduity with which Dr. B. has prosecuted the investigation of the science of Phrenology, reflect the highest credit upon him, and entitle him to the thanks of the scientific and liberal throughout our country.

NEUROLOGICAL EXPERIMENTS, RECENTLY PERFORMED IN THE  
CITY OF LOUISVILLE, BY DR. J. R. BUCHANAN.\*

NEUROLOGY is the only term adequate to convey an idea of that system or mass of science which I am at present propagating. Phrenology (meaning the science of the mind) does not embrace the corporeal or physiological effects and powers of the brain. The functions of the brain are equally important, in a physiological and in a psychological point of view. The psychological department of the science was created by Gall. The physiological portion, is the recent discovery by which I have doubled the mass of the science. The term "Neurology," by signifying the science of the nervous system, is competent to embrace all its functions, as well the mental as the corporeal, and is therefore the proper

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\* From the Louisville Journal.

term for that comprehensive science, of which Craniology, Phrenology, and Physiology, are constituent portions.

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As it is impossible, for obvious reasons, that the incidents by which the science of Neurology has been illustrated in Louisville, should be generally known, or that the experiments should be performed in a very public manner, I propose to give a brief statement of some of the facts occurring within the last month in this city. In doing this, I make no mention of the names of persons; but, should any respectable gentleman desire to look into the matter further, he can, by calling upon me, learn the names of persons concerned, or whatever else he may wish to know upon the subject.

Before proceeding with the detail, I must remark, that the object in my operations is, to excite some of the cerebral organs, and interfere with, or interrupt, the action of others, so as to cause a change in mind or body that can be perceived; some of our powers being increased and others diminished.

Soon after my arrival in the city, I attempted, in my room at the Galt House, to perform an experiment with Mr. ———, which made him perceive a difference in the sensibility of his two hands. This I mention because he is a gentleman of large frame, and one that we might suppose by no means impressible.

A few days afterwards, as I was sitting in the office of Dr. ———, a lady came in, (the Doctor's daughter,) and after a little conversation, I proposed to try an experiment upon her. I operated upon the head, while I directed her to feel various objects with her hands, and ascertain their quality. In doing so, she presently remarked that there was a singular difference in her hands, and that objects felt differently in each hand; yet this

surprised her so much that she could scarcely believe her own senses. To convince her more effectually, I held my handkerchief behind her chair, and requested her to examine (without seeing) the two handkerchiefs which I held in my hand. She put her hands behind her back to feel them, and I gave her the same handkerchief in each hand successively. I had been stimulating (through the brain) the touch of the left hand, so as to make it more acute than that of the right. When she felt my handkerchief in this manner, she pronounced that there was a very sensible difference between the two handkerchiefs; that the one in her left hand felt much coarser than the one in her right. I then surprised her, by showing that it was the same which she felt with each hand. This experiment proved very satisfactory to her brother, who witnessed it with all proper caution and scepticism. A few days afterwards, I made some more striking experiments upon the same lady.

With Mr. H., I made such an experiment as induced him to give me the following testimonial:

“By operating upon my head, Dr. Buchanan produced a singular difference in my hands. The left hand became remarkably sensitive, and possessed of very acute touch. By rubbing the hands upon a piece of cloth, which felt smooth to the right hand, the left perceived a much greater degree of friction; and, indeed, could scarcely endure a degree of friction, which did not affect the right. To the left hand, all objects felt coarse; and, when I felt a handkerchief behind my back with both hands, the difference was so great, that I supposed it to be two handkerchiefs of very different quality. Dr. B. then made another operation upon my head, without letting me know the object, which he communicated in a whisper to another gentleman present. In a few min-

utes, I felt a disposition to swallow; and, as I did so, they seemed to be amused, while Dr. B. requested me not to swallow, as that would interfere with the experiment. I endeavored to abstain, but found that it was impossible to do so; and, seeing that the effect was produced in spite of my effort to prevent it, they informed me that the object of the experiment was to *compel* me to swallow. These experiments were very striking and satisfactory to me."

A few days previous to the experiment just mentioned, having made a visit on Sixth street, the subject of animal magnetism was spoken of; and I mentioned some anecdotes upon the subject. As they expressed a disbelief of the possibility of one individual influencing another, as the magnetists report, I undertook to show them, without attempting the process of animal magnetism, that a very great influence could be exerted by operating upon the head. The lady (her name is not unknown to fame) entirely disbelieved that any influence could be exerted upon *her*, and I endeavored to convince her, by an experiment which was to have a soothing influence. She admitted that the effect was produced; but, eager to deny what she could, she remarked, that feeling her head, or any thing about her head, always had that effect. Then I informed her, that I would continue feeling about her head, and yet prove to her that it might have just the opposite effect, if I chose. I changed my hands, so as to operate upon the organs of the bad passions; and, after a while, she found that the influence was any thing but soothing: it was, in fact, quite disagreeable, and she was glad to have me discontinue the operation.

Her brother-in-law, proved to be a pretty good subject of experiment. I told them, by way of a banter, that I

could make him swallow; and, taking hold of his head, the effect was very soon apparent. He was swallowing repeatedly; but said that, by an effort, he could refrain from doing it. I then took the organ of benevolence for experiment, and excited it without telling him my object. It evidently put him in a fine, good humor, and had also a soothing, and rather soporific effect. He was in a fine, pleasant, drowsy, good-humored state of feeling, and he recognized a very marked effect from the experiment. I asked him whether it was an animal, moral, or intellectual power that was excited. He replied that it was moral, entirely. I then gave him the names of the moral organs; asking him if it were like reverence, firmness, benevolence, conscientiousness, hope, or marvellousness. He replied, distinctly, that benevolence was the feeling which he had experienced more than any other. I then dissipated the excitement of that organ, and endeavored to excite the very opposite; directing the stimulus especially to combativeness and destructiveness. His countenance very quickly changed, and I asked him many questions as to the state of his feelings, which he answered in such a manner, as to show that I had produced exactly the effect that I had wished. He said he felt less good-natured and amiable; that all his drowsiness was dissipated; that he would be much less liberal, and much more quarrelsome in his present condition, than in the one first excited; that it was neither a moral nor an intellectual faculty which was excited, but purely animal. I then asked him what he would call the faculty excited, if he should judge by his predominant feelings. He replied that he would call it revenge. This, I informed him, was not a phrenological term; and I wished to learn, which of the phrenological organs was excited. Naming the animal organs, usually recognized

by Phrenologists, I inquired if he experienced the influence of secretiveness, acquisitiveness, cautiousness, combativeness, destructiveness, self-esteem, approbation, adhesiveness, or philoprogenitiveness? He replied, that destructiveness was the feeling he had chiefly experienced. I asked if it were not rather combativeness. He replied, that it was either combativeness or destructiveness; but he could hardly say which he felt most, as he could perceive but little difference in the nature of the two faculties. I cannot give all the conversation that occurred between us; but suffice it to say, that he gave an excellent description of the organs upon which I had operated. I stimulated the organ of self-esteem, and he described correctly the feeling resulting; saying, that it was a calm feeling of self-satisfaction: but its manifestations were not so striking as those of the other organs.

On a fine morning, about the last of September, I made a visit to Mrs. —, on Market street, who had shown some disposition to call me visionary, when she heard of my discoveries. I determined to make her the subject of some experiments, which might convince her, that I was correct and practical. I operated upon the organs which have a soothing and soporific tendency. She described the effects as I expected them. She was very calm, tranquil, amiable, inert, and disposed to be drowsy. I continued the operation: the drowsiness increased. She leaned back in her chair, and declared that she felt exactly as she usually did from taking opium: her mind was active, but still a drowsy influence was overcoming her, becoming stronger and stronger. Again, and again, she compared it to that of opium. She closed her eyes, and appeared to be going to sleep, calm and motionless. After a time, I removed my

hands: she remained in the same attitude, as if unwilling to move; and, opening her eyes, with a slight smile, said, in a very low tone of voice, "I'm not asleep." Although not asleep, she was evidently in a condition very similar to it; and I continued my operations a few minutes longer, to subdue her more effectually. In producing sleep, I operate in such a manner, as to stop or retard the activity of all the vital organs. In this case, I did not succeed in arresting the activity of the mind, or of the external senses, so much as of the muscular powers. So effectually were these overcome, that she declared she had entirely lost the power of her arm. I asked her to raise it. She declared that she could not. "Well, try to raise it," said I. "I can't try," was her reply. Her arm remained motionless. We requested her to arise. She attempted, and could not. Her son assisted her up; and, after she got upon her feet, she was able, by making an effort, to stand; but quickly sank back in her chair. I now changed my operations; revived her, and in a short time, gave her great animation and vigor. Her husband came in, feeling unwell, and with bad sensations in the liver, stomach, and digestive viscera, for which he had taken something without any benefit. I proposed to cure him without physic, and operated upon his head about twenty minutes. He declared that he experienced very decided and considerable relief. I tried an experiment upon his son, and made him conscious of a considerable change in the sensations of his arms and hands. This experiment was so familiar, that I paid no particular attention to the effects.

Soon after the experiments mentioned in my last, as occurring on Market street, I visited a family on Fifth, in company with my friend Dr. R. There were two

ladies in the house, whose constitutions were quite favorable to neurological operations. With one of these, I commenced some operations upon the head, the effect of which was very considerable; and, indeed, so much, that she became unwilling to continue them. It has frequently happened, that the best subjects of experiment become alarmed at the great and sudden effects which I produce upon them, and unwilling to undergo any further operation.

Mrs. P., a delicate and consumptive lady, expressed her willingness to have an experiment tried, and I proceeded with one which might at the same time exert a beneficial influence upon her constitution, by strengthening the internal vital functions, and develope some striking results for observation. In a few moments, she felt the favorable internal influence; and, all at once, surprised my friend, by declaring that she had lost the command over her left arm, and could not raise it. She was requested to try her best to elevate the arm. She made the effort; and, while the arm remained powerless, we could perceive a trembling, convulsive movement in the hand, as long as the effort lasted. My friend, being her physician, felt a little alarmed for his delicate patient, as he had never before seen an operation of the kind. The effect, although beneficial, as I intended it, had exceeded my anticipations; as, not being aware of the *exact* state of her health, I had not anticipated so much impressibility. I suspended the operation after these effects had been produced, and before our visit terminated, they passed off.

Early in October, I assembled a party of ladies in the parlor of the Franklin House, and gave them an explanation of my doctrines, after which I proposed to try, amongst all of them, what effect could be produced.

I began with Mrs. L., who seemed as favorable a subject as any present. I continued an operation upon the moral organs, until she felt, distinctly, the soothing and amiable influence. When this was accomplished, I reversed the operation, for the purpose of throwing her, if possible, into an ill-humor. In a few minutes, she admitted that there was a change in her feelings; and all the ladies present observed a sensible change in her countenance. She said she felt as if vexed or discontented about something, and that the effect was quite unpleasant, while the former operation was very agreeable. She acknowledged that she felt an unamiable temper; and the ladies around her observed it so distinctly, that they were entirely satisfied with the degree of the effect which was apparent, and requested me not to carry it any further. I reversed the operation, and in a few minutes she declared herself restored to her pleasant state of mind; and all present perceived that her countenance had recovered its amiability.

I made no other experiment of importance, except upon Miss ——. I endeavored to excite her, and stimulate combativeness. She was certainly considerably excited, but, as she spoke of the effects in rather a playful manner, I determined to change them, and proceeded to develope such as would show themselves, in a striking manner, without depending upon her descriptive powers. I proceeded to put her to sleep. In six or eight minutes the effect was apparent; her eyes closed, and her hands dropped. She perceived that she was nearly gone; and, having determined not to be put to sleep in company, she roused up by a vigorous effort and removed my hand from her head. But the sleepy influence was upon her. She seemed half unconscious, and I again slipped my hand upon her head; in a few mo-

ments she perceived what I was doing, and again repelled my hand, making a vigorous effort to shake off the sleepy spell. She straightened up; again her head nodded; she raised her head, elevated her brows, and endeavored to open her eyes; the lids seemed hardly to obey her will, and she assisted them by lifting them with her hands; but as soon as she ceased the effort, they fell together. She stretched her arms and rose up, but seemed scarcely able to stand. We supported her, as she moved, with half-closed eyes, to the sofa. She sat down upon it, and, seeming to give up the contest, fell back as if asleep. The company were all gathered around her, talking to her, trying to rouse her, and scarcely believing what they saw. She heeded nothing, and, if she spoke, it was in an almost inaudible voice: indeed, her whole appearance, her sallow complexion and thin visage, her strange and feeble movements, her absence of mind, the lifeless expression of her eyes when they were half opened, and her evident desire to recover the possession of her faculties, made, altogether, such a picture, that I could compare it to nothing but a galvanized corpse, beginning to recover its vitality. They talked to her, threw water in her face, and endeavored to assist her recovery; but, as I did not help them in the restoration, it was twenty minutes or half an hour before she was fully restored to her faculties. The influence was described by herself afterwards, as very strange; and she said that she struggled with all her might against the soporific influence which I had exerted, until she even felt vexed and angry that she could not shake it off. If she had yielded to the influence in the first instance, I might have put her to sleep more promptly, in a very pleasant manner, and waked her up in a few moments; but, as she resisted the operation, I left her to her own

efforts.—A few days afterwards, a small party was assembled at the house of Mr. K., on Jefferson street. I gave them a brief explanation of the principles of Neurology, and selected Miss ——, a young lady of extremely delicate appearance, as the best subject of experiment. I began by an operation upon the sense of hearing; but finding her more susceptible than I had supposed, I discontinued this, and proceeded to a more striking experiment. Without letting any of the company know what was to be done, I proceeded to put her to sleep by a method which is always pleasant to the subjects. By this method, (keeping the moral faculties active,) we give them a cheerful calmness and serenity, accompanied by the most pleasant thoughts and emotions.

As she sat upright in her chair, and the company around maintained a sprightly conversation with her, it is obvious that every thing was opposed to the soporific influence which I attempted to exert, and that the circumstances were well calculated to defeat the experiment. This, however, was a most fortunate concurrence of circumstances, to enable me to display the power of the Neurological influence in a situation in which no one could refer any portion of the effect to imagination, or to the surrounding circumstances.

In a few moments the company were amused by hearing her remark that she felt drowsy. Her countenance next began to show the effects, and she announced that she was positively sleepy. As this effect was not anticipated, no one believed it to be any thing but a jest, until they saw her eyes close, and witnessed every appearance of sleep. She was in fact sound asleep, in her chair, in about five minutes from the commencement of the opera-

tion, of the effects of which she had not previously the slightest idea.

Her sister approached, and, observing something strange in her appearance, spoke to her, and endeavored to rouse her, but all in vain: she took hold of her hand, and spoke to her more earnestly; but obtained no sign of recognition—no evidence of consciousness. The sleeping lady was entirely unconscious that any one had spoken to or touched her, until afterwards informed by the company, when awake.

The fragile form of one so delicate in health, made her an object of anxious care; and to see her thus strangely entranced, roused the extreme alarm of her sister. She screamed aloud, and, trembling with apprehension, commanded me to "wake her up! wake her up! take it off! take off your spell!" But even this was unheard by our sleeping beauty. She was in the land of dreams, and her dreams were pleasant. To relieve her sister's anxiety, I reversed the operation, changing the position of my hands; and, in half a minute, she woke up, and turned over upon the arm of Mrs. F., with the most charming expression of countenance that can be imagined. The whole operation she described as being the most soothing and delightful: indeed, she did not thank us for waking her up. What was the subject of her dreams, she did not communicate to the company; but, I have no doubt, that in this condition, those of so delicate susceptibility, might have their dreams directed, and considerably modified by the operator.

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NEUROLOGY.\*—The progress of this science is destined to be more rapid and triumphant than that of any

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\* From the Louisville Journal of January 21st, 1842.

which has heretofore been presented to the world. The experiments by which the new principles in Physiology are developed, are so satisfactory, and so easily performed, that hundreds of demonstrators will soon be engaged in illustrating the science, and will carry conviction throughout America and Europe.

My experiments have already been successfully repeated at the East, by Messrs. Purkitt, and Pons, lecturers on Phrenology, and can be repeated by any one who will take the pains to seek an opportunity. I would remark, however, that, at first, gentlemen who may engage in illustrating Neurology, will be disappointed in some of their experiments, because of the inaccuracy of the existing science of Phrenology. One-third of the organs are inaccurately located; and a large number (about two-thirds of my catalogue) are not known or described in any treatise on the science.

After the publication of my System of Neurology, and the illustrative bust, experiments may be made with perfect certainty as to the results.

There will be failures, also, for another reason: most of the functions displayed by the excitement of the different organs are compound. The operations will therefore sometimes display a compound function, and sometimes a simple function. The results will thus become contradictory, until the operators understand the laws of antagonism and co-operation, which are almost entirely unknown to Phrenologists at present.

Those who attempt to repeat the experiments, should, therefore, be cautious not to carry the excitement of any organ too far, if they wish to display its normal action, and its usual effects.

JOS. R. BUCHANAN.

EXPERIMENTS IN CEREBRAL PHYSIOLOGY.\*—Attracted by a notice of Messrs. Purkitt and Pons, that they would, on the evening of the 3d of December, repeat the experiments of Dr. Buchanan, of Louisville, Kentucky, in Cerebral Physiology, I attended, with a large company, at the appointed place, (the Universalist Church,) and, for the first time in my life, beheld a person in what is called a magnetic sleep.

Mr. Purkitt, in a preliminary lecture, contended, by many strong arguments, convincing, I presume, to most present, that the brain was the organ of the mind. After this, a large committee of scientific and literary gentlemen was designated to oversee the experiments, and guard, as far as practicable, against fraud and collusion. They were made on a lady from the city of New York, of perhaps twenty or twenty-five years of age, apparently intelligent, and obviously blind. She was examined by a medical gentleman of the committee, and pronounced entirely blind. Before she was introduced, Mr. Purkitt, in her absence, gave a brief history of her life and education, from which it appeared that she was a worthy member of a Christian church; that she had received a good common education, and had been instructed in the general division of the brain into three portions; namely, the anterior, the upper, and the posterior; and that these were respectively the regions of the intellectual and moral powers, and the propensities.

It was confidently affirmed, by Mr. Purkitt, that from diligent and searching inquiry of her friends, instructor, and all others at all acquainted with her, among whom were many well-known and respectable gentlemen of New York, it was, to his mind, most satisfactorily proved that her knowledge of Phrenology extended no further;

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\* From the Newark Daily Advertiser.

and that she did not know the names of any of the thirty-six parts into which the head had been divided, with the exception of three—mirthfulness, benevolence, and veneration. “And now,” said Mr. Purkitt, “how do you know that *we* are honest? Of course (said he, with singular naivete) we are; and besides, we offer ourselves, and are desirous, to be put under oath in regard to our knowledge of the girl, or any other matter connected with the experiments.” No one requested it; but I am entirely convinced of the integrity of Messrs. Purkitt and Pons. A black-board was then hung on the wall, behind the desk, and the girl placed with her back to it, in front of the desk. It was agreed, that the committee should cause to be written upon the board, such experiments as they desired to see performed, under which Mr. Purkitt was to write in advance the result that would follow.

The trial began by inscribing “*Inhabitiveness*” upon the board; under which Mr. Purkitt wrote—“She will talk of her home and her reluctance to leave it.” Mr. Peale, of New York, threw her into a magnetic sleep, and placed her in communication with Mr. Purkitt, at first; but, objection being made, he placed her in communication with a distinguished physician of this city, a member of the committee, who proceeded to interrogate her with questions having no relation to the passion indicated: such as—“What are you thinking of, Mary?” “What do you love most?” Answer: “Myself.” Question repeated. Answer: “I don’t want to go to Boston, because I shall have to leave my home. Have I got to go to Boston?” Question: “If I would give you five thousand dollars, would you not go?” “No, no,” with much feeling. “Would you be so cruel as to make me go?” Before the questions were asked, and

as soon as the words were written on the black-board, either Mr. Purkitt, or Mr. Pons, directed Mr. Peale, who said he was, and indeed appeared to be, unacquainted with Phrenology, to excite that part of the brain which is the organ of the faculty or feeling inscribed upon the board. This was done, by a smart friction of it for a short time (probably not a minute) with the fingers. This, as I have said, was performed by Mr. Peale, so that Messrs. Purkitt and Pons, had no agency at all in the experiments, except to point out the part of the head to be excited, and to foretell the result.

While the lady was thus oppressed with sadness, at the thought of being carried from home, a sudden change came over her dream; for the committee had caused "mirthfulness" to appear on the black board: and, as soon as that organ was excited by Mr. Peale, she broke out into a hearty laugh, which lasted till the next experiment, notwithstanding the numerous questions of the Doctor, in communication with her, as to her desire to go to Boston. Electricity seemed for a time to be added to magnetism, for the whole company became convulsed with laughter. Being asked, she said she laughed "because Mr. Peale told her she need not leave her home and go to Boston," &c. The action of this organ was allayed, while that of inhabitiveness continued. "Combativeness" then appeared upon the board; the organ of which was no sooner excited, than she became violent in her action—raised her hands to strike—said "she would fight any body that would take her to Boston. I am so mad with you, because you say I shall go to Boston." And she, on some questions being put, expressed the same attachment to home, as at first.

All the organs are now allayed, and that of benevolence was put into action, agreeably to the suggestion of

the committee. The effect was beautiful and striking. Her voice assumed remarkable softness—her tones were soothing—her manner kind. She was asked why she came out this evening. Her answer was, "I came with Mr. Peale. I feel sorry for those poor people who were so cold; I would give them all I have to make them comfortable."

Upon the organ of destructiveness being excited, in combination with the last, she tore and bit her clothes, exclaiming, "Oh poor people, I am sorry for them," &c. The same success attended the experiments on the organs of numbers, locality, acquisitiveness, and others, separately, and in conjunction; but neither time nor space will allow me to be more particular. But I must not omit entirely the striking experiments on her organs of time, and tune, and veneration. With respect to the former, she said she wanted to hear the oratorio, and began to sing. Suddenly she cried out, "Oh, there is a baby in the next door," and made the motion of trotting it on her knee, singing Old Hundred by way of a lullaby. The excitement of this organ having subsided, and that of veneration being awakened, she talked of ministers and the church, and clasped her hands. "Is there no church to-night?" she inquired; "I want to hear the word of God." Her voice was low, soft, and solemn; and she asked, "May I not go to church, Mr. Peale?"

With the exception of ideality, the organs were promptly excited; and that was also successfully done, after some fruitless attempts—finally proved to be one of the most interesting experiments; for she seemed to dilate with pleasure, and spoke of "that beautiful book." She also recited several verses of a piece of poetry, said to be written by Mr. Hoffman, beginning "The conflict is over," &c. She said "she was very fond of poetry,

could recite all night, and she must read another work of Hoffman."

She was now relieved from the magnetic influence ; and Mr. Purkitt remarked, that he could perform experiments, now she was awake, similar to those already exhibited. He accordingly repeated those on locality, eventuality, and number, with similar results.

These experiments were announced to be the first of the sort performed on this side of the Alleghanies, and as intended to verify those of Doctor Buchanan, in illustration of the principles of *Phrenology*. \* \* \*

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DR. BUCHANAN'S LETTER.\*—It affords us pleasure to gratify Dr. Buchanan, in the publication of his letter, which will be found on our first page. If our readers compare this letter, with the accounts in the last and previous numbers of our paper, they will see at once the great difference between his discovery, and those of our own. His, according to his own account, are confined to the *nervous* system ; ours have to do with man's *magnetic nature*, and the laws by which it is governed ; the plurality of the *pairs* of organs ; the magnetic *poles* ; the *opposition of different organs*, etc., and not merely to the possibility of exciting the organs, nor as to their precise number ; though, indeed, we have demonstrated, as we think, the existence of a number not before discovered, as stated in our last paper.

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It is a fact, to which we have before alluded, that the organs were excited by the writer, and others at his suggestion in this city, last July or August—some months before any thing of the kind had ever been heard of in

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\* From the New York Watchman.

this part of the country. And it is equally remarkable, that the same thing precisely seems to have been done in England, without a knowledge of either Dr. Buchanan's experiments, or our own! These coincidences certainly demonstrate the truth of Phrenology.

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We never saw the papers to which Dr. B. refers, and regret that he has never received those we sent him.

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*To the Editor of the New York Watchman:*

DEAR SIR: A friend has just placed in my hands the New York Watchman, of January 15th, in which is contained, a description of experiments similar to those in which I have been engaged for about twelve months past. As I do not recollect to have seen any previous account of these experiments, there must be some mistake between us, as to the papers you speak of having sent me, or some of them must have miscarried. This, however, is entirely immaterial. You will see, by the documents which I send you herewith, that I was giving *public* lectures and experiments, last April. As I happened to be at Little Rock, when I first determined on presenting the matter to a public audience, my first lecture upon this science, was given at that place, on the 16th of April. What I had done previously, it is not now necessary to detail; though I might, by so doing, show claims of discovery more than two years earlier.

My operations having been as yet remote from those cities, in which notoriety and fame are soonest acquired, I find no difficulty in supposing that the statement concerning my lectures may not have reached your eye, although it was copied into a paper of so wide a circulation as the Louisville Journal.

Very little of what I have done, has been made known by the press. Yet I could not read, without some surprise, your article of the 15th; as some account of my discoveries was given *last November* in the *Globe*, and in newspapers of Philadelphia, Boston, &c., one of which is now before me, containing an editorial article headed, "Wonderful Revelation concerning the Functions of the Brain," based upon experiments which had been made last spring. These experiments occupied the whole ground of Phrenology—more than doubled the number of distinct organs, and established propositions in Physiology and Therapeutics, of much more importance than the Phrenological doctrines which had been thus established.

When discoveries of such magnitude came into my possession, I felt eager to establish them immediately, by crossing the Atlantic and making them known in London and Paris. The propriety, however, of perfecting my discoveries, as far as possible, has induced me to remain thus long quietly engaged in their prosecution, and in preparing for the press an exposition of what I have done.

During this time, some newspaper notices have appeared in reference to my experiments; but the greater part of what I have been doing, is unknown to the public. I felt assured, that while thus remaining in comparative obscurity, others would undertake such operations as I had been engaged in: but regarding the discovery of cerebral excitability, as a trivial matter, compared with the science arising from it, I felt willing that others should attract the public mind to their own operations in this way, if any should be attempted, and directed my efforts to improving, instead of propagating the science.

Hence, it is not yet known to the scientific world,

that discoveries have been made, showing what are the psychological, and what are the physiological functions of the brain, to such an extent, as to make it requisite to substitute the term *Neurology* (science of the nervous substance) for *Phrenology* (science of the mind.) Were the functions of the brain exclusively mental, *Phrenology* would be sufficient: but the corporeal are as important as the mental functions which it manifests. *Neurology* is the only admissible name for this department of science; as *Cephalology* and *Cerebrology*, beside being new and uncouth names, would be incorrect; because the whole mass of nervous matter, within and without the cranium, is concerned in the manifestations of mind and life. *Neurology*, is, indeed, a comprehensive term; and, in its fullest range of meaning, as applied to man, is almost as comprehensive a word, as *Anthropology*.

To this science, I have invited public attention, and the investigation of the scientific. Having given demonstrations before the Board of Managers of the Louisville Medical Institute, that body, satisfied of the reality of the science, adopted a resolution requesting three of the professors, (occupying the chairs of Anatomy, the Institutes, and the Theory and Practice,) to investigate the facts of *Neurology*, as taught by myself, and report to them upon the utility of the Science in the practice of medicine. One of the gentlemen, having been too closely engaged during the session in the duties of the Anatomical department, to admit of his engaging in any thing else whatever, the investigation has not yet commenced.

What *Neurology* is, will soon be illustrated by a small work which I am now preparing for the press; giving the outlines of the new science, and especially of its psychological portion. The results of my labors,

while they elucidate Physiology, and revolutionize the details of Phrenology, throw a brilliant light upon the phenomena of Animal Magnetism.

To this subject, I must now allude, in consequence of the following paragraph in your editorial article :

"These accounts inform us, that Dr. B. and Mr. P., declare themselves as having nothing to do with what is called Mesmerism. But they might just as well tell us, that they have nothing to do with Phrenology, or the brain. The truth is, they are afraid of the stigma which has been cast upon this name, and hence their disclaimers."

My name is here associated with that of Mr. P., of whom I know nothing beyond the statement of the newspaper, which represents him as repeating my experiments. Answering for myself, I would remark, that I have *not* been engaged in making experiments upon subjects in a magnetic or somnolent condition, but solely upon persons in their *natural* condition.

Those who know me, will not suspect me of thus endeavoring to avoid any *stigma*, which an unenlightened and tyrannical public sentiment may fix upon the votaries of science, for seeking prohibited knowledge. I honor the cultivators of Animal Magnetism, as the intrepid leaders and benefactors of their race; and had I not a peculiar line of investigation for myself at this time, I would be actively engaged in the daily investigation of that subject. But let me beg to be held responsible for my own language alone, and not for what may be said about me. Let me, then, say to you, what I have been repeatedly compelled to say in "defining my position."

Disregarding the very meaning of the word Neurology, and probably unacquainted with its derivation, ig-

norant scoffers would repeat that this science was nothing more than the old story of Animal Magnetism, clairvoyance, &c.; others would assert that it was totally unlike—both confounding the *science* of Neurology with the experiments by which it was demonstrated. Some, by a singular combination of scepticism and credulity, were even led to adopt the laughable theory, that I produced the wonderful results of my experiments by the mere power of my will, controlling every one whom I approached! and compelling them to feel such emotions as I willed them to experience!!

Such notions being afloat, I have been compelled to express myself frequently, in public and in private, in something like the following manner.

Neurology is a comprehensive science, including all the phenomena of mind and body. The Animal Magnetists, are engaged in cultivating one department of this science, which is rich in wonders. Their results, although they seem incredible, are established by unanswerable testimony; and, therefore, must be received. The experiments which I am performing, are different, as they are simply designed to illustrate the ordinary or normal functions, and the pathology of the human mind and body. My operations aim at utility, by explaining the machinery of life, and the powers of each organ: those of Animal Magnetism, develop extraordinary or transcendental phenomena, by the joint influence of two or more individuals. The phenomena thus developed are mysterious and wonderful; and, indeed, we seem in a fair way to realize through these operations, that "truth is strange—stranger than fiction."

The present may well be called an important era. About fifty years since, the revolution commenced which is now in progress. Instead of the Mental Philosophy

of former days, which was separated from Physiology, and was therefore a crude, inaccurate and useless system, Dr. Gall gave us the science of Phrenology, in which Mental Philosophy, by connecting itself with the congenial science of Physiology, became rational and useful. This constitutes the *first great era of Anthropology*.

In the present day, Phrenology, blending into a perfect union with the *whole* of Physiology, and extending its jurisdiction over the phenomena of Animal Magnetism, comes forth with a dignity, a demonstrable certainty, and an importance which were before unknown, and bids fair, under the title of Neurology, to originate greater blessings to mankind, than were ever anticipated by its illustrious founder, Dr. Gall.

To all who engage in this great work, I would say, the field is ample enough for a million of laborers; and should our countrymen take the lead, and maintain it as we have begun, we may make the amplest return for the stores of medical and philosophic knowledge which we have derived from the land of our ancestors.

JOS. R. BUCHANAN.

Louisville, Ky., Feb. 22, 1842.

DR. BUCHANAN'S EXPERIMENTS.\*—What a feast of wonders should we have to spread before old Cotton Mather, of Witchcraft memory, could he, at this day, revisit this breathing world. He would, it is true, miss his witches, his phantom-ships, his ghosts, and hobgoblins; but still, we think, he would be at no loss for materials for another volume of his "*Magnalia*." At least,

gy \* From the Louisville Journal of December 1, 1841.

if he would happen along this way about these times, Dr. Buchanan could show him some things which would throw almost any chapter of his book of "wonderful things" into the shade. He would confess, on attending one of the Doctor's lectures, and witnessing some of his wonderful experiments in "*Neurology*," (as he styles the science,) that there were yet things in heaven and earth, which had not been dreamt of even in his philosophy.

We would not exactly class the Doctor's science with witchcraft and *hobgoblinism*, though it seems to be quite as marvellous as either; for the fact of his having made converts of some of the most intelligent of our citizens, would dispose us, aside from our own observations, to believe there is something in the matter worthy, for its novelty at least, the attention of the curious. Having several times witnessed his experiments, we are willing, without pretending to account for their results in any way, to give Dr. Buchanan the benefit of our observations, by stating what we saw.

We have seen Dr. Buchanan experiment on different persons, and on several different occasions; but by far the most satisfactory of all we saw, were some experiments made upon Mrs. G., the very intelligent lady of one of our principal merchants. We called on Mrs. G., with Dr. B., on two different occasions. The first time, the experiments were performed in the presence of several witnesses besides ourselves; the second time, only the husband of the lady and a female friend were present. We will begin with the first evening.

When we entered the sitting-room, Mrs. G. was complaining of a slight pain in the head, accompanied with a feeling of great languor. Her countenance also indicated this. She remarked to Dr. B., "she feared that,

in consequence of her indisposition, he would find her, that evening, a very bad subject." He replied, good-humoredly, that "he would cure her headache for her;" and asked her in what part of the head the pain was located. She replied, in her forehead; placing her hand upon the spot where the pain seemed to centre. The Doctor then commenced rubbing her forehead lightly with his hands, passing them rapidly from the middle (where the pain was) around the temples. He had not continued this more than half a minute, before the lady declared that the pain had wholly ceased; and it did not return during the evening. The Doctor then told us, in writing, that he would attempt to rouse her spirits, which still seemed very much depressed, by exciting the organs of combativeness; and, accordingly, placed his fingers upon those organs. In five or six minutes, there was a very perceptible change in her countenance. The listless, languid air had entirely disappeared, and had given place to an expression entirely its opposite. Perceiving so great an apparent change, the company interrogated her as to the occupation of her thoughts, and her present frame of mind. She said her mind was running upon marches and martial music; that she could dwell with great interest upon battles, and should like, of all things, to see one. She seemed to feel a high degree of courage; her voice and manner indicated boldness and decision. She said "she felt as if born to command;" and she looked, as well as a delicate lady could, the feeling. When asked by Dr. B. if the influence she seemed to be under was favorable to obedience, she replied "that it would produce disobedience:" upon which, her husband, jocosely remarked to the Doctor, "that he must stop that: it was a fault he did not wish to see increased in her." Her child cried a moment in the adjoining

room. She started as if to go to it; and, when asked what she was going for, she said "to whip the nurse." She was asked if there were to be a mob in the street, how she would act. "I would go out and see them," said she. "Suppose they were about to break into the house," said the Doctor, "how then?" "I would lock the door, stand outside, and tell them they could enter only over my dead body:" and her voice, attitude, and whole manner, were in unison with her words.

Dr. Buchanan then told us, in writing, that he would endeavor to excite the antagonist organ, benevolence; and immediately placed his hand upon that organ. In a few seconds, the determined expression of her countenance relaxed, and she settled back in her chair, apparently calm and subdued. Dr. B. asked her how she would like to see a battle, or be engaged in one? "Oh! not at all," said she, "I would rather go about and bind up the wounded." When asked how she would act in case a mob was breaking into the house, she said: "I should just let them do as they pleased, and make no kind of resistance." Dr. B., intimated privately, to her husband, that he was sure Mrs. G. would soon commence thinking or speaking of a certain charitable society, about which she had been engaged during the day. She did so. In a few moments, when interrogated as to the subject of her thoughts, she spoke of the "Provident Society" and the "Episcopal Orphan Asylum;" for one of which, she had been endeavoring to obtain money that day.

One of the company, then requested Doctor B., in writing, to excite her organ of number, or calculation. He placed his hand upon that organ; and very soon asked her what were her thoughts. She answered, she

was counting over, in her mind, the amount of money she had collected that day for the "Orphans' Asylum." "I don't know *how many* houses we went to, said she, but we collected only six dollars." She said she felt a strong inclination to count, and added, she should like to be counting money. Doctor Buchanan gave her a handful of small change, which she counted over and over repeatedly, with seemingly a childish fondness for the employment.

We intended to notice also some other experiments performed by Dr. Buchanan, the same evening; but shall be compelled to defer to another day, an account of them, as well as of the experiments of the second evening, upon the same individual. Meanwhile, we subjoin a continuation of the experiments reported by the Doctor himself.

After I had waked Miss —, Miss R. desired to undergo an experiment, and I attempted putting her to sleep. Although her vitality and wakefulness were pretty well overcome, I do not believe that she was at any time entirely asleep. She sat motionless, with her eyes closed, like one with a partial and dreamy consciousness. Some of the company supposed her asleep; but when I terminated the operation, she was, although much exhausted or debilitated, still conscious, and capable of speaking in a low voice. I restored her; but, for some time, she felt singular sensations, resulting from the process through which she had been conducted.

A few days afterwards, Mr. M., of Maysville, called upon me to see if I could produce upon him any of the effects which he had heard of my producing upon the ladies. I attempted the experiment for producing sleep,

with such an effect, that he had no doubt it would, if continued, frequently produce sleep. But as he had been liable to apoplectic attacks, I discontinued the operation before it had gone any great length—revived him, and whispered to Mr. F., who came with him, that I would set Mr. M. to swallowing. In a short time the swallowing occurred repeatedly; and he felt the influence upon his throat. Some other unimportant operations were performed; and he retired, well satisfied.

A week or two after this, a party was assembled at the house of Mr. A., and I gave them a short lecture upon the subject; after which, I proposed to try some experiments. The company being rather large, the backwardness of the ladies prevented my obtaining suitable subjects of experiment. There were some suitable constitutions present; but the persons could not be persuaded to participate in an experiment. I endeavored to introduce the matter, by trying a young gentleman, who, although not a good subject, might, I supposed, feel a little effect. I excited the top, and then the base of the brain. He described some of the effects in himself, such as usually result from these operations; but they were not very important.

I then chose a gentleman (Mr. H.) of sound, vigorous frame, in whom I thought it probable that a more distinct effect would occur. I operated upon those organs of the head, which determine excitements to the arms and hands. He had heard previously of my experiment upon Mr. A., and was probably prepared in his mind against any effect being produced on himself. He denied, for a while, that any effect was produced; then admitted, that, if there was any difference, the hand which I had been trying to excite, had a *little* more sensibility. I was a little disappointed in the result not be-

ing more marked ; but, the experiment being concluded, in the course of the evening, the matter was again brought to our notice by Mr. H., who complained considerably of the feelings in his arms, which had been produced by my operations, and which lasted some hours. Pain, is a very unequivocal matter, and much more easily perceived than a slight difference in the sense of touch. The arms, however, could not have been excited through the brain to a painful extent, without modifying their tactile sensibility more than Mr. H. perceived or described.

I could probably have accomplished nothing more upon this occasion, but for the laudable example of a lady, well known for her intellectual powers and conversational talent, with whom I undertook the next experiment. I attempted, as in Mr. H., to excite the two hands in a different manner, increasing the sensibility of the left hand in touch. The effect was displayed by her remark, that to the left hand things felt coarser or thicker than to her right. The sensations of the arms were also very marked. The excitement of the left became oppressive and painful ; it felt sore ; as if it had been bruised, or had been over-fatigued. The right arm experienced some loss of sensibility, and felt as if the flow of blood to it was diminished ; the left, as if the blood had accumulated in it. I remarked, then, to Professor Y., in a whisper, that I could change the condition of the two arms ; bringing them to a balance, by withdrawing the excitement and determination from the left, and stimulating the right. Mrs. F., who did not know what I was aiming at, soon remarked that the oppression of the left arm was diminished, and the right arm was changing its condition, or becoming excited like the left. As soon as she pronounced them to be in the same con-

dition, I discontinued the operation. The left arm, having been much longer under excitement than the right, retained the effects or soreness much longer after I discontinued the operation; and did not recover its natural condition until the next morning. During the night, the same sensation of numbness, and a lingering effect of the soreness, were distinctly perceived.

The experiments just described, had been previously performed upon Mr. A., at my room. It was the first time that I attempted to operate upon him; and, finding that his organs of feeling and touch were very large, I attempted, at the close of my lecture, to excite the faculties in his left hand, while I diminished their activity in the right. For some ten minutes, no sensible effect occurred, Mr. A. being a gentleman of large, vigorous frame. I continued the operation; and, presently, he announced that he could feel better with his left; that some things felt coarser to his left hand than to his right. This, being distinctly perceived, showed that the sense of touch was modified; and I then felt sure that I had succeeded with all the manual senses: to ascertain which, we first tried the thermal sense. A glass of water was brought him; and by feeling its coldness with each hand in succession, or by wetting his finger to feel the coldness of the water, he found that there was a very distinct difference between the power of the two hands to perceive cold. The left, felt the coldness more sensibly. I then tried the electric sense. I set an electro-magnetic machine in motion, and he placed the thumb and fingers of one hand so near, as to have a current or succession of shocks pass through the hand. The left, could perceive this current, much more distinctly than the right.

At the close of one of my public lectures, (to illustrate my doctrine,) I proposed an experiment upon Mr.

F., for the purpose of influencing his hands. F. is a steamboat captain, of tolerably vigorous frame; but, having the organs of the different species of manual sensibility largely developed, I presumed that I might excite them. In about ten or fifteen minutes, he perceived quite a difference in their powers of feeling and touch. Objects felt much coarser to one hand than to the other. Afterwards, with my class, I repeated this operation upon Mr. F. with success.

For decisive and convincing experiments, I prefer to operate upon some of the external senses, because few persons could be mistaken in reference to them. Operations upon the mind, or feelings, are not always described with sufficient precision, because few are accustomed to scanning, with accuracy, their thoughts or emotions; and it is, therefore, necessary to produce a powerful effect, before we can get a good description. It is necessary, too, that we should produce an effect sufficiently strong, to change the expression of the countenance; and, it is desirable, that the subject operated upon, should not know what faculty we intend to excite.

Under these circumstances, I have recently made some of the most satisfactory experiments, that we can possibly conceive.

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DR. BUCHANAN'S EXPERIMENTS—CONTINUED.—We resume, to-day, our sketch of Dr. Buchanan's experiments in *Neurology*, which we commenced in yesterday's paper. We begin where we left off.

After Dr. B. had gone through these experiments on Mrs. G., the gentlemen, of whom there were four or five present, insisted on his attempting some experiments on them; which the Doctor consented to do, premising that

he might fail to succeed, as he had not yet ascertained that any of them were good subjects. The company designated our friend, Capt. —, for the Doctor to begin upon, and requested that he would put him to sleep. The Doctor commenced upon Capt. —, by placing one hand upon his forehead, and the other upon the front part of the head, on the top. In this position, the operator kept his hands from three to five minutes. He then removed them, and commenced passing his fingers gently from the forehead along the temples, and down each side of the face, touching the hair all the time. After a lapse of five or eight minutes, Capt. — began to show signs of drowsiness, and in ten or fifteen minutes, in spite of the utmost exertions to throw it off, in which he was not a little aided by the rest of the company, who were continually talking to him, and about him, he was nodding in his chair, perfectly unconscious of everything around him. We questioned him, repeatedly, after he began to manifest signs of drowsiness, as to his feelings; and he invariably answered that he felt an irresistible disposition to go to sleep—that it seemed impossible for him to keep awake, &c. And all this, while he looked the perfect picture of sleep.

We believe that Dr. Buchanan does not pretend that this was the *Mesmeric* sleep; for we have never heard that he has as yet attempted anything in the line of what is strictly known as *Mesmerism*, or *Animal Magnetism*. The sleep, into which he threw Capt. —, seemed to be an easy and natural sleep, from which any one might readily have aroused him. The Captain awoke, after a few moments; but he still seemed much disposed to sleep. The Doctor, therefore, proposed, for the purpose of arousing him thoroughly, to excite the organ of combativeness; which he accordingly did. The effect on

Capt. —, was remarkable. His countenance, which had before been the very picture of languor, sleep, and lethargy, now assumed a determined and resolute expression; and, when interrogated as to the nature of his feelings, he said he felt as though he wished to accomplish some great object, though he did not know exactly what—that he felt resolute for some achievement. This closed the experiments of the evening.

We will now give the result of the observations of our second visit to Mrs. G., with Dr. Buchanan. We first requested the Doctor to excite hunger and thirst. It was then about three o'clock, P. M. The request was made in writing. The Doctor replied (also in writing) that he would endeavor to do so; at the same time, misleading her imagination; and while he placed his hand upon the requisite organs, he endeavored to lead her to suppose, by requesting us to feel of her pulse, that he was attempting to change the tone of her pulse. In a few moments, she complained of thirst, and asked for a glass of water; which was, accordingly, brought her.

The Doctor then wrote, with a pencil, that he would excite in her the love of country; and placed his hand upon the organ which, in his system, is assigned to that emotion. Her countenance almost immediately assumed a very grave cast; and, when questioned as to the nature of her thoughts, she replied—They had gone back many, many years; that she was thinking of England, her scenery, her institutions, her glory, and her greatness. We ascertained from her husband a fact, which we did not know before, that she is a native of England. We then made, in order to try her, some disparaging remarks on England; and in doing so, came near making her quite angry.

Dr. B. then told us, in writing, he would excite an

organ which he had himself recently discovered, and which he had named "playfulness!" said he had never attempted it on Mrs. G., but that, as he found the organ large in her head, he presumed he should be successful. She had heretofore been quite grave; but now she became lively and playful, and commenced laughing, though we could not perceive at what. When asked what she was laughing at, she replied—at her own feelings; that she was thinking she should dearly love to take a good romp; that she should like a romp with Mr. G., her husband.

The Doctor then wrote down the names of several organs, and told us to designate which we would have excited. We pointed to *Philoprogenitiveness*, (love of offspring.) The Doctor wrote that the organ was very large in her, and that he could probably send her to look after her child; and his hand had been on her head scarcely half a minute, before she begged we would excuse her a moment, while she went to look after her child: and she immediately went out of the room to look after her child in the next.

We next requested the Doctor to excite the organ of tune. He placed his hand upon that organ; and, in a few moments, when asked what she was thinking of, she replied that she was following the notes of a tune which some one was playing in the room above, and which we could faintly hear. Her husband then requested Dr. B., (these communications were always made in writing,) to give a martial turn to the music. Presently she said she was running over in her mind the Marseilles hymn. Mr. G. then desired him to give a domestic turn to the music; and in a moment she said she was singing "Home, sweet home." The Doctor then placed one hand upon the organ of philoprogenitiveness, keeping the

other still upon tune, and presently she said she was singing, "Hush, my dear, lie still and slumber." In fact, her head, during all these experiments, seemed to respond to the touch of the Doctor's hand as promptly as the keys of a piano to the hand of a skilful performer.

In our account of these experiments we have confined ourselves to a mere statement of what we ourselves saw; without pretending to give any explanation of the facts.

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NEUROLOGY.—The article on Neurology, containing the experiments of Dr. Buchanan of this city, deserves attention. We were present on the occasion, saw the effects, and prepared an article to accompany the following copied from the Advertiser, but must omit it for want of room.—*Baptist Banner*.

The singular philosophical developments, made in the article published in the Advertiser by Dr. Buchanan, a few days since, upon the subject of his discoveries in Neurological science, have excited much attention throughout the country. The most respectable and influential of our eastern exchanges, have taken the subject in hand; and even those which are most cautious in believing any of the thousand new and strange theories with which this age abounds, have paused before venturing to question the truth of this, substantiated as it is by evidence of successful experiments, in which collusion or deception were out of the question. That the discoveries which Dr. Buchanan professes to have made are startling, nay, bordering on the marvellous and improbable, is true; but that he *has* succeeded, in numberless instances, within the past few weeks, in producing the results described, cannot be denied. Men may com-

bat abstract theories and quibble about points in metaphysics, forever, and *reasonably* refuse to be convinced: but actual experiments and clear results, brought home to the senses and the judgment, *force* conviction upon skepticism itself.

Having had but little leisure to attend Dr. Buchanan's Lectures and witness his experiments; and being, withal, not overstocked with 'marvellousness,' we have refrained from any very particular account of his proceedings; and shall wait until we know much more of the matter, before we surrender, or attempt to explain "the why and the wherefore" of his *brain*-ological achievements. The only experiments we have witnessed, took place on Thursday evening at the residence of Mr. E—, in the presence of a company of intelligent ladies and gentlemen, most of whom had never witnessed an attempt of the kind, and were skeptical upon the subject. The first subject experimented upon, was a young lady, in good health, but of a delicate constitution, who was also a stranger to Dr. Buchanan, and his art. It will be necessary only to notice those experiments attended by the most marked results.

The first operation produced drowsiness—a fullness of the head—heaviness of the eyelids—in a few minutes she complained of an inclination to sleep; and in spite of the raillery and efforts on the part of the company to keep her awake, she was nodding in her chair, with her eyes closed, like one incapable of being roused. Dr. B., subsequently, wrote on a piece of paper, which he handed to the company, that he would excite the organs of "playfulness, mirth," &c. In one minute, she expressed a desire to dance, (though of a religious and contemplative cast of mind.) Doctor B. then tried the organ of 'tune,' (writing his intention before each

change of his hands;) when she preferred *music* with her dancing, and felt like playing lively pieces. The Doctor then changed to *martial music*; when she instantly expressed a preference for that species of music over all others—drums, fifes, marches, &c. Another change to the “sympathetic and kind,” produced a strong desire to sing for the benefit of orphans—to soothe the afflicted, &c. Doctor B. produced *thirst*: then wrote on a paper that he would cause her to prefer “*toddy*” to all other drinks. In less than a minute, being questioned whether she desired water, wine, hard-cider or brandy, she replied neither, but thought a glass of *toddy* would suit her best. The success of this experiment was complete; but what sort of an organ, the Doctor found in the head of a lady, who is both a *te-totaller* and a *Whig*, which caused her to prefer *toddy* to *water* or *hard-cider*, we leave unexplained.

Doctor B. now tried similar experiments upon another lady, and by the same course of pressure and friction upon such sections of the brain as he wished to excite, produced like results. *Reverence* was excited, and she desired to read the bible—felt religious—thought that children, under the influence of such a feeling, would be mere devout—would like to go to church. *Combateness* was excited; when she said she felt unpleasant—had no desire to go to church—would quarrel with her children and beat them. *Mirthfulness* was brought into action; when she expressed a desire to be in a ball-room, or to go to the theatre—felt “full of play and fun”—had no disposition, either to flog the children or go to church; but preferred gay company. *Calculation*, roused a desire to study geography, and arithmetic; would like figures better than any thing else; thought of the time she learned the multiplication table, and how easy she could repeat it now. Doctor B. changed his

hands to *philoprogenitiveness*. She was silent—spoke not when addressed, though the agony depicted in her countenance, plainly told that she was the victim of powerful and painful emotions. The experiment was suspended—and after reviving, she stated that the recollection of the death and funeral of some of her children, and the sickness of others, some time since, had rushed so suddenly and strongly upon her mind, as to deprive her of the power of utterance, and produce feelings of distressing faintness. Other experiments were made, plainly showing that the different portions of the brain can be, by friction and pressure, excited to increased activity, producing an unusual manifestation of the passions or feelings of which they are, according to phrenological *dicta*, the organs. Such are a few of the facts. Let physiologists, metaphysicians, wonder-workers and believers in marvels, make the most of them. We shall recur to the subject, and perhaps speak of the useful purposes proposed to be attained by the cultivation of this new branch of science.

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NEUROLOGY.\*—The Cincinnati Republican enquired, some days since, what had become of our *Neurologist*; and other cotemporaries have manifested a similar wag-gish curiosity upon the subject. We can enlighten them. Dr. Buchanan is still in this city, assiduously engaged in repeating his experiments—perfecting the science of *Neurology*, and applying it to its true purposes—the treatment of disease.

Some of our brother editors, as well as many with whom we have conversed, even *here*, do not seem to

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\* From the Louisville Public Advertiser, December 10, 1841.

*know what Neurology is.* No longer since than Wednesday evening, a medical student informed us that he had all along regarded it as none other than the veritable science of *Mesmerism*, or *Animal Magnetism*; and was quite astonished on learning that Neurology was merely the *Physiology of the Nervous System*; and that the singular experiments in which Dr. B. has been engaged, are designed to show the functions of every part of the nervous mass contained in the head, by exciting that part, by external irritation, in such a manner, as to cause a distinct manifestation of its peculiar properties, whether mental or corporeal.

Those who recognize Phrenology as a *true science*; (and who does *not*?) who understand the mysterious operation of the mind, upon the whole nervous system, through the medium of its organ, or mass of organs, the *brain*; and who are aware how readily the different organs of the brain can be recognized, classified, and their volume defined by exterior examination, can, with readiness, comprehend the whole secret of Dr. Buchanan's operations; which consist merely, in exciting any organ, or combination of organs, to greater activity, by operating with the fingers, upon that portion of the skull under which they are located. Hunger, thirst, anger, benevolence, vision, muscular strength, hearing, &c., may be readily excited in this way. *Mesmerism*, with its mysterious manipulations, its passes, its clairvoyant conditions, its magnetic states and transmissions of mental power and ubiquity, all operating independent of *contact*, no more resemble the science of Neurology, as defined and exemplified by Dr. B., than the practice of the *faith doctors* does the regular practice of medicine.

When our neighbors come to give the matter a "sober second thought," and witness a tithe of the experiments

which Dr. B. has made in Louisville, in the presence of hundreds, and upon all classes of subjects, we shall expect to find them more warm in their commendations than we have been. We are a skeptical people in Louisville, in matters of this kind, and yield to nothing which is not sustained by unquestionable philosophical demonstrations, *heard and seen by ourselves*. On Tuesday evening last, Dr. B. made a series of experiments, in the presence of a large company, which produced striking results. Two ladies, acquaintances and friends, were seated near each other, and in great good humor and buoyancy of spirits, awaited the operation. Dr. B. placed a hand on the head of each, upon the organ, called by the French phrenologists, "the love of power." In a few minutes, a scene was "got up," at once singular and amusing. Each bridled up with an air of dignity and self-conceit, and Mrs. H., when asked by Dr. B., "What are you thinking of now," replied, "Why, I am thinking that I feel very *proud*." To the same question, Miss G., after a scornful silence, and its repetition, replied that she was astonished that Mrs. H. should talk of being *proud*. Mrs. H. turned with a look of defiance and demanded, "Have not *I* as much to be proud of as *you*?" A cutting retort followed—each asserted her superior claim to beauty, good temper, refinement, obedience, &c., with a spirit and bitterness of tone and carriage, which those who have witnessed such scenes in neighborhood squabbles, where faces are wont to be scratched, caps torn, and tongues let loose, can so well imagine. Apprehending results of too *striking* a character, one of the company advised the Doctor to call a constable; but he hastily dissipated the belligerent excitement, and began to arouse their *moral* sentiments. Their angry glances soon ceased—they became modest,

complaisant, and humble ; and on being reminded of the part they had acted, each began to make apologies, and ask pardon of the other. Each was animated in her expressions of regret, and would accept no apology ; insisting that she only was in fault ; and so affected was one of them, that she burst into tears. To counteract this effect, the excitement of the moral organs was slightly diminished, while mirthfulness, playfulness, social feeling were stimulated. A striking change succeeded ; she became highly elated, laughed, and soon proposed a dance with a gentleman present, (the husband of Mrs. G.) springing upon her feet with infinite self-satisfaction.

All this time, Mrs. G. sat quiet, melancholy and dejected ; laboring under the serious feelings which had been called up to subdue her pride. She seriously objected to her husband dancing—as very unbecoming—a vain and improper amusement—particularly, for one of his age. Mrs. H., being in a fine humor, submitted to her disappointment with a good grace, and the dance was suspended, while the Doctor commenced exciting the same mirthful organs in Mrs. G. It was amusing to witness the change of her language and expression of countenance, as the *dancing* spirit came upon her. She began to admit that dancing *might* be proper in some cases—thought it a very becoming amusement—particularly for old people—liked to see people dance—would like to dance herself. She was reminded of her former objections, but was unwilling to acknowledge them ; as such were not her real sentiments. She, with great earnestness, urged Mrs. H. to dance with her husband, to convince Dr. B. how highly she approved of dancing. Other results were produced, which will be noticed to-morrow, as well as similar experiments on Wednesday evening.

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tried upon the same lady; and it was amusing to witness the sudden transitions, "from grave to gay, from lively to severe," which took place in her manners, appearance and conversation, as her brain answered, like a well tuned piano, to the touches of the operator's fingers. Into whatever mood she was thrown, from three to ten minutes were sufficient to change the current of her thoughts and language into another channel; perhaps, ludicrously inconsistent with the former. At one time she would abuse her husband like a termagant, claiming superiority, and treating him as if unworthy of her; and immediately after, express the deepest contrition for her conduct, and speak of him with affection, as her superior, &c.

The organs of tune and mirthfulness were operated upon with success—the tone of conversation and conduct, on the part of the two subjects, following the changes of Dr. B's hands from one organ to another, with remarkable precision and fidelity; both being unconscious of the effects which he intended to produce. Another fact is worthy of notice; which is, that after the dissipation of the effects of most of the experiments, particularly the most striking ones, they forgot and strenuously denied all they had said or done; but an excitement of memory restored the facts to recollection. Doctor B. closed the experiments, by putting Mrs. G. into a sound sleep in five minutes; from which she was with some difficulty awakened.

So much again on the subject of *Neurology*. That the results described, *were* produced, cannot be denied: that there has been collusion or any deception practised upon the hundreds of intelligent witnesses, who have seen and heard, will not be pretended. We present the facts, leaving Doctors of Physic and Doctors of Divinity, to

settle this new question concerning the mysterious relation between physical and intellectual being.

### MEMORIAL

TO THE HON. BOARD OF MANAGERS OF THE LOUISVILLE MEDICAL INSTITUTE—PRESENTED DECEMBER 18, 1841.

*Gentlemen:* As the progress of Medical Science cannot be to you a matter of indifference, but must excite your lively interest, I am induced to lay before you a statement of those philosophical discoveries which I have recently been making; the result of which, will ere long, prove to be an important change, or re-organization of medical science, both in its philosophical principles and in the treatment of disease.

Having commenced in your city the formal presentation of the Science of Neurology, (influenced by the consideration that this is almost as my native spot,) I would wish before going abroad, to secure the favorable notice of those whose official station may authorize them to notice and to decide upon matters of grave importance, that concern, not only the medical profession, but the public welfare.

The scope of my researches embraces the final settlement of the most important propositions that Physiology needs, to make it a complete and satisfactory Science. They aim to develop the true laws of the human economy—a series of laws heretofore unknown.

Amid the confusion of theories and contradictory plans of practice; amid the controversies of medical partizans, the vagaries of enthusiastic advocates for particular theories, and the skepticism of the class who doubt the certainty of all medical principles, we still find a distinct acknowledgment by all, of the fact, that their

science is full of mystery, and that its practice abounds in uncertainty and contradiction.

If interrogated, as to the reason of this, there are few who will not candidly confess, that the true cause of their confusion is the want of a satisfactory knowledge of the physiology of man. And, if interrogated again in what respect their knowledge of man's economy is most defective, they will readily agree, that of all portions of our science, they are most defective in the physiology of the nervous system. Indeed, until the discoveries of Gall, there was an almost total ignorance of the functions of the brain; and the functions discovered by him, being entirely mental, threw little light upon the healing art, except in reference to the treatment of Insanity.

And yet the nervous system is the seat of life, and the controller of all the functions of the body. The whole Science of Physiology is simply an exposition of those functions in the body, which are put in play, and carried on, by the nervous system. The digestion of food and formation of blood—its circulation and distribution to the various parts of the body: the growth and nourishment of every part; the removal of effete matter from the system, by the various excretions, and the performance of all the muscular, voluntary, and involuntary motions, are all, simply, the various modes in which the living power of the nervous system sets in play the various parts of the body.

So long as the nervous system performs all its duties with regularity, every organ of the body has its regular and healthy action. Whenever there is an injurious impression upon it, the bodily functions are disordered and various forms of disease ensue. For it is recognized as a principle in physiology, that disease begins with an in-

jurious impression upon the nervous system, which injury works out its results in the corporeal organs.

The conviction being general that the nervous system is the "*fons et origo*" of all the morbid, as well as healthy phenomena of man, reason would have dictated that its functions should undergo the most rigid examination; and yet it is a fact, that up to the date of my researches, not a single one of all the corporeal functions had been traced to its cerebral source with any degree of certainty and accuracy.

The extent of our ignorance in this matter, may be shown again, by alluding to the phenomena of disease. Of these, we may say, that at least one half are purely sympathetic. They are produced by means of that influence which one part of the body exerts when diseased in modifying the health of other parts. This modifying influence, or sympathy, is exerted through the nervous system; but, beyond that fact, our knowledge was almost nothing. In what particular manner the sympathy was effected, and why certain parts had a particular sympathy with other parts, was unknown.

Thus we see, that the very fundamentals of a complete system of Physiology were wanting, and that our therapeutical philosophy was both lame and blind: lame in its ignorance of the nature of disease, and blind in its ignorance of the mode by which medicinal agents made their impression.

To supply such defects as these, is the most exalted object at which the ambition of man can aim; for, when we develope the physiology of the nervous system, we know man thoroughly—his mind, his body, his health, and his disease.

Familiar as I am with the new truths developed by my experiments, I am almost startled to record the na-

ture and extent of those discoveries to which I would call your attention. In doing so, I must remark that all I assert is easily demonstrable, when a proper opportunity is afforded; and that I wish to demonstrate each proposition, before your honorable body, *at as early a period as practicable*, by satisfactory experiments.

The essence of my discoveries consists in determining the seat of all the functions of the nervous system, whether they relate to mind or body. For instance, I determine with equal certainty the sources of the passion of anger; the sentiment of benevolence; the faculty of vision; the power of secreting bile; the power of secreting the gastric juice; or the power of using the muscles in locomotion.

Every passion or emotion that man can feel; every intellectual faculty that he can exercise, and every function that is performed in any part of his body, has a legitimate origin in some portion of his nervous system. The result of my investigations shows that all of these localities can be ascertained; and such has been my progress, that but few important principles have been left for future discovery.

A beautiful and boundless field of knowledge has thus been opened before us: but the useful purposes to which these discoveries may be applied, are commensurate with the magnitude of the discoveries themselves.

By knowing the exact source of all the functions of body or mind, we are enabled to control these functions for every purpose that may be desired, and to act upon mind or body as we please. There are many constitutions which admit of these impressions being produced, with the greatest suddenness and certainty, by an influence apparently trivial. In such persons, any local pain, as head-ache, tooth-ache, nausea, &c., &c., can be

removed in a few minutes. If dyspeptic, the stomach can be made, in half an hour, to resume the discharge of its healthy functions: if the liver is torpid, it can be urged in the same time to the most vigorous action: if there is constipation, or an imperfect secretion of urine, the bowels and kidneys can be compelled to act. If there is a fever, accompanied by excessive heat, the heat can be promptly reduced, and the pulse regulated to any condition that may be desired: or, if there is a chill, the constitution can be warmed, the circulation regulated, and the functions of the abdominal organs rectified. If there is pulmonary disease and congestion of the lungs, they may be relieved of that congestion, and placed in the most favorable condition for healing. If there is any determination to the brain, that determination may be checked, and the blood distributed to other parts of the system. In short, the whole of the circulation and secretions are completely under our control; and for this class of constitutions, our neurological operations are a perfect panacea. They perform all that medicine can do, and they perform it with far more simplicity, certainty, and precision, while they accomplish much to which medicine does not aspire.

As far as this class of persons is concerned, the discoveries of Neurology are worth far more than all the existing mass of medical science. They enable the practitioner, while treating disease in the most prompt, simple and certain manner, to keep the mind of his patient in any condition that he desires, and thus impart all the calmness, fortitude, or cheerfulness, that may be necessary to the patient's condition. If it should be necessary to perform a surgical operation, he will be able to blunt the sensibility, and increase the firmness of the patient, until the most painful operations can be en-

dured: if the energies of the system are prostrated by melancholy, he can easily restore cheerfulness, or even gaiety. In some cases, we are aware, that the life of the patient is lost by the depressing influence of fear and melancholy: in others, these depressing passions urge their unfortunate victim to suicide, as the only relief. In all such cases, a proper change in the state of the nervous system will give relief, by producing cheerfulness, and a capacity for enjoying all the pleasures of life. Whether this change can be produced readily, in *all* cases, I am not prepared to say; but as I know, by daily experience, that in the most effeminate constitutions such a change can be produced in a few minutes; and the laws of the human frame are the same in all cases; we may infer that any impression which can be produced upon one individual, may also be produced upon another, by resorting to the more or less energetic means that suit the particular case, and occupying more or less time in proportion to the facility with which the constitution yields to the agent employed. In other words, if we find the agent that can produce a particular impression upon the constitution, that agent will produce the same impression upon other constitutions, by graduating the dose to suit the impressibility of each case.

It would be tedious to enumerate the various impressions which may be made upon the faculties, passions, and appetites of patients for medicinal purposes. The power, which in certain cases we may exercise, is entirely unbounded by any definite limits that can as yet be perceived. A few only of the more obvious and valuable results will be alluded to.

The want of appetite and of digestive power is so common a circumstance in disease, that the power of restoring them whenever it may be necessary is an invaluable

able art. It will give me pleasure to show you with what facility we may control the gastric functions, and produce or destroy appetite at will; creating hunger, thirst, or nausea, as we wish.

It is not more easy to remove the dyspeptic affections, to which deficient or morbid action of the appetites and digestive powers gives rise, than it is to relieve those which depend upon an excessive action of Hunger and Thirst. The eager appetite of the convalescent invalid; the raging hunger of bulimia; the gluttonous indulgence of the gourmand, may all be brought in their bounds, by diminishing the activity of that part of the brain from which their appetites proceed.

But there is an appetite of a more formidable nature than that of the gourmand—an appetite more pestilent in its effects than the Asiatic cholera; because it is continually at work, hurrying its thousands upon thousands of victims to a dishonored grave. The appetite for strong drink, even though it has enlisted against it nearly the whole moral force of our country, is still, as it always has been, a desolating curse. Medicinal skill knows no efficient means of cure for this disease of the appetite. The nostrums designed to create a disgust against drinks, have accomplished little, because they do not affect the real disease, which consists in a craving for stimulus.

When I cast the mind's eye over the thousands of desolate homes, and behold the many manly forms, the many gifted minds that have sunk before the power of this curse, I rejoice for the welfare of mankind to believe, that I have learned the true locality of this disease in the human constitution, and established the possibility of modifying this formidable appetite. Indeed, I will

stake my existence upon the fact, that the drunkard's thirst may be as intelligibly and successfully managed, as the affections of the liver, stomach, or heart.

One of the most serious calamities to professional men, or, indeed, to any one, is the loss of the power of fixing the attention. Deprived of this, all our attempts at study are inefficient. The disease may run on to insanity, or it may exist in a milder form, unfitting its subject for the business of life. Medicine knows no means of operating directly upon this affection. Neurology recognizes it as one of the most simple and manageable forms of disease.

Nostalgia, or home sickness, melancholy, irritability, abstraction, ennui, erotomania, timidity, nervousness, and a hundred forms of mental disorder, are made perfectly intelligible, both in their nature and their treatment, by the Science of Neurology.

In an essay, published a short time since, I gave the following catalogue of effects which I had produced by means of neurological principles. But I cannot close this communication, without alluding to the specific power which we possess of operating upon and controlling the action of the heart. I wish to demonstrate, before you, that excitement of the heart can be arrested or reproduced at pleasure, and that dangerous, apparently fatal inflammations may be controlled with ease.

To operate specifically upon any portion of the body for the restoration of its healthy functions, without administering any drastic or deleterious substance, and indeed without using a particle of medicine, must bring about a new and wonderful era in the healing art; a perfect system of therapeutics, based upon a perfect system of physiology.

These are discoveries of no obscure or uncertain na-

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excited, and made to display their functions in a satisfactory manner, as proposed in the memorial.

One of these experiments may be mentioned as it offers something more than the ordinary excitement of the organs.

By exciting the sense of taste, I had found it practicable to extend its power so far as to enable the subject to taste by the hand instead of the tongue. A distinguished member of the Bar of Louisville had once been made the subject of this experiment, in the presence of a very intelligent company, and had succeeded so far as to tell, with great accuracy, and certainty whatever metal was placed in his hand.

In repeating this experiment before the Board, (upon Mrs. G.,) she succeeded in tasting, with great precision, every metallic or other substance which was placed in her hands for trial; and was able in the course of a few minutes to tell the name of the substance, which she would announce in the most positive manner, as soon as she distinctly perceived the taste.

One of the gentlemen, desirous of having the most accurate test of her powers in this new mode of tasting, took from his pocket an article, which he kept concealed from every one present, and which he permitted her to touch with the left hand, while her head was turned in an opposite direction. The substance was a piece of solid rhubarb, and gave her in about one minute a pretty distinct taste. She proceeded to describe the taste and described it with great accuracy, although she did not give the name. As the taste became more and more distinct, it grew more and more nauseous and unpleasant to her, until she became so very sick as to make it necessary for me to go promptly to her relief, change the excitement

and dissipate, by a counter operation, her unpleasant sensations.

After a number of evenings had been spent in Neurological experiments, the following resolution was adopted by the Board :

*Resolved*, That Professors Caldwell, Cook and Cobb be requested to enquire into the principles of the new science of Neurology, as taught by Dr. Joseph R. Buchanan, and to report at their earliest convenience to this Board the facts which may have been presented to them, and their opinion of the utility of the science in its application to medicine."

#### LETTER FROM DR. CALDWELL.

EXTRACTS FROM THE LETTER OF DR. CALDWELL TO THE EDITOR OF THE EDINBURGH PHRENOLOGICAL JOURNAL.

LOUISVILLE, April 5, 1842.

*My Dear Sir:* The paper from the pen of Dr. Buchanan, which this letter accompanies, is transmitted to you in the belief that it will so far experience from you a favorable reception, as to be admitted to a place in the Phrenological Journal which you so ably conduct. \* \*

If I mistake not its character, the paper contains in itself an amount of curious, interesting and important matter, abundantly sufficient to serve as its ready and welcome passport into any phrenological depository of the day.

In behalf of its solidity and merit, however, permit me to observe, that I have myself witnessed experimental verifications of no inconsiderable number of the striking positions and allegations which it contains. I have also performed in person a sufficient number of them to serve me as an earnest of the truth of many others.

This is true, more especially, as regards the Mesmeric excitement of the separate organs of the brain, and the calling forth, in an augmented degree, of their natural language and action.

I apply to the excitement the term "Mesmeric," because the mode of its production is analagous to, and its ruling principle no doubt identical with those of the production of common Mesmeric phenomena. The following experiments I have repeatedly performed, since my last return from Europe, without encountering a single failure.

Having thrown my subject into a complete Mesmeric condition, I have so excited the organs of Combativeness and Destructiveness, even in ladies of delicacy and refinement, whose natural feelings toward myself were friendly and kind, as to induce them to give me blows, as severe as they could inflict. I have then excited their Benevolence, willing into their presence some object of distress, and drawn from them an abundant effusion of tears—their Veneration, and they have become immediately devout, reverential and adoring—their Hope, and their thoughts have become buoyant, elastic and brilliant, and all their anticipations a foretaste of felicity to be afterwards enjoyed by them—their Cautiousness, and they have sunk into victims of apprehension and gloom—their Self-Esteem, and so swollen was their pride, that they would hardly have submitted to the companionship of an Empress—their Mirthfulness, and their thoughts were cheering, sprightly and playful, and all their fancies bright and mirth-born—their Number, and their instinct of Calculation would become insatiable. A lady, in that condition, counted several generations of canary birds which she had reared, all the buttons on my coat and waistcoat, and on being willed into my drawing room,

all the chairs, tables and pictures contained in the apartment. I next excited her Order, whose development was large, and in that state, willing her into my study, she gave me an earnest rebuke on account of the disorder and confusion which prevailed in it, and was quite exceptionable to her.

Thus have I, on several occasions, run through a majority of the larger and more powerful cerebral organs, rousing them to strong action and expression, and in this way settled, in my own opinion much more definitely and indubitably, their positive locality, than can be effected by any other mode of proceeding with which I am acquainted.

Among the experiments of Dr. Buchanan, which I witnessed, a very interesting and important one consisted in his augmentation or diminution at pleasure of muscular strength in any given part of the body. In the case of a youth, convalescent from severe disease, the Doctor, in the presence of several persons, I being one of them, first augmented and then diminished the strength of the arms, in a degree that was obvious and even striking to the spectators. I have also been a witness, when he has, by a similar process, changed very materially the condition of the digestive organs.

With respect to Dr. Buchanan's claim to *priority* in the experiments alluded to, I possess no knowledge, either definite or conclusive. One fact, however, I well remember, which may be made perhaps to shed on the subject some little light.

About eighteen months or two years ago, I received from Dr. Buchanan a letter in which he alluded to certain striking discoveries of great interest in Neurology, which he had been so fortunate as to make. I have reason to believe that his reference was to the discoveries announc-

ed in the article now before you, and I further believe that at that period all other phrenologists and mesmerists WERE STRANGERS to them.

BRIEF ACCOUNT OF THE SCIENCE OF NEUROLOGY—WRITTEN FOR THE EDINBURGH PHRENOLOGICAL JOURNAL, BY DR. JAS. R. BUCHANAN.

The rapid march of invention and discovery which characterises the present age, renders it necessary that those who discover new facts and principles in science, should not delay too long their publication, if they would secure to themselves the honor of discovery. That field of scientific research which has been entered by myself, is one so rich in matter, so easily entered by others, and so abundantly covered with a tempting harvest, that I deem it necessary, even now, to make known what portion of the harvest has been gathered by myself, and what portion remains for future discovery.

The field alluded to, is that of Cerebral Physiology; and the peculiar mode of cultivating it which I have adopted, is that of exciting by external applications the different portions of the brain, and stimulating or suspending their physiological functions for the purpose of discovering what those functions are.

The effects of cerebral action, being (as has been demonstrated by experiment) both mental and corporeal, we are able, by exciting different portions of the brain, separately or conjointly, to bring about any condition of mind or body at which we may aim.

That any external means should be able to control the action of the brain, and that the action of the mind should be modified by this cerebral excitement: in short, that we should be able thus to call forth any of its

faculties or emotions, with almost as much certainty and facility, as when we elicit the different notes of a musical instrument, is a proposition so startling, as to be utterly incredible to those who have not previously learned that our mental faculties have their distinct cerebral organs. From phrenologists, whose minds have been expanded and liberalized by the contemplation of the great truths of their science, we expect a cordial welcome for the discovery, by which their science, while immensely expanded and improved, is rendered a matter of demonstrable certainty, not only in its general principles, but in all its details.

To a certain extent, the cerebral action of any individual, may be modified by direct applications to the head; but those prompt and decided impressions, by means of which any particular mental faculty may be made for the time to control all the actions and thoughts of the subject—to display itself in every look and every expression—are practicable only with persons of more than the average susceptibility. The number of such, however, is sufficient for our purposes: every city contains hundreds of persons of suitable constitution.

In those of the greatest impressibility, I have found no difficulty in exciting anger, piety, obstinacy, impatience, love, hatred, fear, mirth, sympathy, fancy, reason, generosity, avarice, pride, vanity, humility, &c., so as to compel them to display the passion excited. I have made them laugh or weep; walk or be still; fight or apologise for quarrelling; talk or be silent; steal or surrender stolen articles; lie pertinaciously, or confess sincerely every thing that might be asked; believe in Mormonism, ghosts, and all absurd superstitions, or deny every thing supernatural, and even the contents of the

Bible; caress children and animals, or repulse them, as if horrified by the thought of touching them; abuse their nearest friends or relatives, and then offer to go upon their knees and sue for the pardon of any whom they may have offended: in short, there is no variety, no extravagance of action, which I have not found it practicable to produce, in some of my subjects, in a few minutes, while they were, in all other respects, in their natural condition of mind and body, at home, in the midst of their friends and their ordinary avocations or amusements.

The control which I have found practicable over the corporeal functions, is not less striking and extreme than over the mental. The body may be heated or cooled; the pulse may be changed into any of the many conditions of fulness, tension, force, or frequency, that can be discovered by the most delicate tact; the muscular system may be supplied with an extraordinary vigor, or rendered powerless; the heart accelerated and increased in the force of its action, or reduced to an entire suspension of its movements; the stomach made to digest, to vomit, or to suspend either action; the liver to secrete, or to suspend the secretion of bile; the whole of the abdominal viscera to perform vigorously, or to suspend their functions. The eye, ear, hand, nose, tongue, throat, or salivary glands, may be made in a few moments to perform, to a greater or less extent, or to suspend their several functions of seeing, hearing, touching and feeling, smelling, tasting, swallowing and salivation. Indeed, there is not a single function of the human system, which may not, by operating upon its cerebral source, be modified, accelerated, retarded or suspended.

Or, to express it otherwise, every portion of the vital economy is under the control of portions of the cerebral

mass; and these portions have been by my experiments ascertained with sufficient precision, to enable me to produce with certainty any effect that I may wish upon the body, through the medium of the controlling power of the brain.

The subjects of these experiments have been persons of various characters and conditions—many of a high order of intelligence. They have been made upon physicians, clergymen, lawyers, &c., some of whom are among the most distinguished in our country; and many upon ladies, whose fine mental cultivation has added to the resources of a vigorous and discriminating intellect. The incidents occurring with such persons could not but be deeply interesting. The scenes arising from these experiments, happening sometimes in private, sometimes in fashionable parties, possess that wonderful and romantic interest which belongs to no department of science so much as to the higher walks of Anthropology. Not even the physical immensities of Astronomy afford so vast and mysterious a theme, as the workings of the human mind. Nor does any other science offer so great a multiplicity and diversity of phenomena, resulting from a few simple, fundamental laws.

It is obvious, that the variety of facts and principles, which have thus been developed, cannot be properly comprehended by the term Phrenology, which signifies merely the science of the mind. It became necessary to find some term more comprehensive. *Anthropology*, which is sufficiently comprehensive, is not sufficiently specific. *Cerebrology*, which is sufficiently specific, is not quite sufficiently comprehensive. I have, therefore, brought into use a term which has been well received, in this country, which is at once sufficiently specific and sufficiently comprehensive—NEUROLOGY. This word, by

which we mean the science of the entire mass of the nervous substance in the body, whether central or radial, answers our purposes with precision, and prevents the necessity of coining any new term.

NEUROLOGY, while it incorporates the entire mass of Physiology with Phrenology, makes a revolution in the latter science. Although the greater portion of the organs discovered by Gall and Spurzheim, have been correctly described, in the main, experiment has proved about one-third of the number to have been incorrectly understood. Nor does the catalogue of Gall, Spurzheim, Combe, or Vimont, embrace a sufficient number of functions to explain the diversified phenomena of human character. We have been compelled, by the results of experiment, to make very large additions to this catalogue. The extent to which we have been compelled to go, will probably not a little startle those who prefer in all things to keep the world as it is, and who recognize the phenomena of nature only so far as may suit their inclinations.

That so large a number of cerebral functions should exist, is, however, a fact entirely reasonable and plausible in itself. The structure of the brain, pays no great respect to the arbitrary lines by which phrenologists have been accustomed to divide its organs. On the contrary, we find that the fibres of adjacent organs, said to possess very distinct functions, often lie together in such a manner, as to defy any definition of the boundary between them. The similarity of structure and position, always appeared to my mind a strong argument against the existence of any very distinct functions in fibres so near and parallel. The fact, too, that from the sympathy of contiguity, these neighboring fibres must partake of each other's excitement, and be generally brought into

action together, gave additional strength to the opinion, that they could not be destined to the performance of entirely independent and dissimilar functions. This opinion, being, according to the pathognomic laws, a matter of absolute certainty, I had taught it for some years in my courses of lectures; and, having brought it to the test of experiment, have found it confirmed.

Regarding the convolutions as composed of fibres, the functions of which vary by insensible gradations from point to point, I expected to find the neighboring organs of each convolution, harmonious in their functions; those farther apart, materially different; and those occupying an intermediate position, manifesting an intermediate function; the whole, blending, like the colors of the prismatic spectrum, in a regular manner and with an appropriate gradation. Thus, in my experiments, I have found that if any two portions of the brain, lying adjacent in the same convolution, gave two different functions, their points of contact when excited gave a function of an intermediate character, very nearly such as would result from the blending of their powers. Whenever a particular function has resulted from the excitement of any spot, a slight variation of the locality, in any direction, would change the character of the phenomena developed: and a change, in an opposite direction, would generally vary the result in an opposite manner. Instead of finding any considerable portion acting as a unit, and manifesting entirely the same function, some of those portions which have been laid down as distinct, prove to be possessed of not less than three, four, or five, distinguishable functions, which are in some cases, materially different from those heretofore ascribed to them.

It is very probable, that there may be certain divisions

and arrangements of the cerebral organs, which are sanctioned by nature ; but ~~what~~ these natural subdivisions are, I am not yet prepared to say. I have adopted, for my Neurological bust, that which seems most convenient and accordant with the mental relations to the external world, and with the phenomena of the human constitution ; an arrangement which cannot be called exact, but which is certainly, in most respects, a near approximation to the proper arrangement.

The number of independent functions, which may thus be demonstrated by experiment, with an adequately susceptible person, amounts to 166 ; but, for convenience of instruction, I demonstrate usually not more than one hundred. With a subject of large brain, well cultivated mind, and high susceptibility, I have no doubt that even as many as two hundred might be shown.

It will probably be asked, whether the physiological and psychological phenomena manifested by the brain, do not originate in distinct portions, thus preserving a broad line of demarcation between the mental and corporeal. To this, it must be replied, that no such distinction exists ; but that every portion of the brain is charged with the control equally of the mind and of the body. Each portion produces a particular mental, and also a particular corporeal effect, whenever called into action ; whence results the great and beautiful law of Anthropology, that *a particular condition of the body, accompanies every particular condition of the mind*. Upon this law, we base the practicability of MORAL MEDICINE ; or, affecting the body in a beneficial manner by mental influences. Carrying out the operations of this law, to its ultimate results, we see how certain shapes and conditions of the body are connected by the links of causation with cer-

tain emotions and traits of character, and may, therefore, in a rational system of physiognomy, be relied upon as a sufficient indication. In this way only, can Physiognomy be rendered a *Science*; and for some years, I have been endeavoring to give it that character.

To illustrate the law just announced, let me here mention a few examples. That portion of the brain which produces the love of habitation, or desire to live in a house, produces also an easy, pleasant condition of the lungs, in which the inspiratory, oxygenating functions are arrested or retarded, and the demand for fresh or cool air, is very limited; by which condition, we are fitted for living in close apartments. Man, it is thus proved, is designed by Nature to live in a house, and not entirely in the open air. That organ, which, when excited, produces a vigorous action of the lachrymal glands, and an effusion of tears, produces also the most intense emotions of sympathy. That which gives the most delicate visual sensibility, gives for its mental function, the perception of light, shade, and distance. That which gives to the character the trait of Firmness, gives also corporeal hardihood and insensibility. That which gives the propensity for observation, gives the eye the power of enduring laborious use, and the glare of intense light. Through all the phenomena of mind and body, there is an exact parallelism, and an indissoluble connexion of the several parts of one to the several parts of the other.

These double functions, i. e., equally mental and corporeal, are so arranged in the brain, as to have by contiguity, a most harmonious co-operation; and by antagonism of position, a most perfect antagonism of function: the antagonistic organs, generally working together, and thereby preserving the just balance of the human organism, mentally and corporeally.

All these mental and physiological phenomena, are the results of a few simple laws; the rudiments of which were traced out by the original discoveries of Gall. The results of my own investigations had shown me, before I undertook Neurological experiments, that these laws were simple and universal, when applied to Anthropology, and furnished a complete key to the whole science of man. Their nature may be illustrated by the following proposition, viz:

All mental phenomena, resulting from any particular organ, when in action, and all the corporeal effects of that organ, are associated with a certain particular line of action, which is called the *pathognomic line* of that organ. As far as the influence of that organ extends, it tends to throw every thing in the direction of that line, and in that line only can it act. So far as our actions, or the phenomena of the human body correspond with that line, they are the effect of that organ. So far as the phenomena of Nature correspond with that line, they are grateful to the organ; and, so far as they depart from it, they are disagreeable. By these pathognomic lines, every muscular movement may thus be analyzed, and referred to its true cerebral sources: the various distributions of innervation, and of blood throughout the body, are as easily referred to their different cerebral causes; and the expressive movements of the countenance, are also easily understood, as emanations of peculiar cerebral influences, the sources of which, may be traced with precision. In consequence of these pathognomic lines, by which the study of mind and of physiology is so extremely simplified, we are enabled to announce the broad, and indeed universal proposition, that the whole science of the mind, and of the body, is subject to clear

and comprehensive MATHEMATICAL LAWS, and will, ere long become a science of mathematical clearness.\*

NEUROLOGY, is then an exposition of the following general laws :

1. The brain governs and sustains every corporeal, and performs every mental function.

2. The cerebral organs may be influenced directly by external means, and the phenomena of mind thus brought under control for scientific study, or for therapeutic benefits.

3. The body, being under the absolute control of the brain, may be effectually managed by cerebral influences ; and diseases may be successfully treated by operations upon the head alone.

4. Every physiological is indissolubly united to its corresponding psychological function.

5. The peculiar condition of the body may be inferred from that of the mind: and this may be made a very important method of DIAGNOSIS in disease. The peculiar character and action of the mind, may be inferred with equal certainty from the appearance of the body ; in which law, we have the broadest basis for Physiognomy.†

6. Every function, or organ, is associated for its balance and control with an antagonist function or organ ;

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\* I have made an interesting application of the pathognomic lines to the analysis of the movements of the hand in writing. By means of this science, or art, which I call *Chirognomy*, I have found it practicable to infer the character and the cerebral developement from the hand writing. In some respects, *Chirognomy* is not inferior to *Cranioscopy* as a guide to character. Of late, I have not given so much attention to this subject ; but others have taken it up and prosecuted it with success. The principles of *Chirognomy* are simple—the practice is difficult—the results are wonderful.

† Each portion of the body, being connected with some passion, emotion or faculty, there is a rational foundation for the conception that the passions are located in the viscera—a conception, much nearer the truth, than Phrenologists have been willing to believe.

and by means of these laws of antagonism, the whole mass of Cerebral Physiology assumes a wonderful and beautiful simplicity.

7. The functions of the brain are indefinitely subdivisible, and are arranged harmoniously in accordance with the laws of the "sympathy of contiguity," and the laws of antagonism.

8. The various sympathies of the viscera, and the various concatenations of morbid phenomena in disease, may be explained by the positions and sympathies of the various cerebral organs. Physiological sympathy is chiefly the effect of the contiguity and the antagonism of cerebral organs.

9. All the physiological and psychological phenomena of man, as well as the positions of the cerebral organs, and his whole anatomical structure, are in harmony with certain pathognomic lines, and governed by strict mathematical laws.

10. The nervous or cerebral influence, or fluid, is radiated from the brain in the pathognomic lines of the organs, and is also efficiently conducted by the human hand.

To demonstrate the independent existence and transmissibility of a nervous fluid, establishes an important point in Physiology. I have often performed a very simple experiment, by which it may be clearly established. By taking hold of a metallic rod, (a knife, pair of scissors, poker, or whatever happens to be convenient,) we may transmit the nervous fluid through this conducting medium, and produce striking effects upon the person who holds it by the other extremity: The subject should be of an impressible constitution, and should keep the arms relaxed, while the operator grasps the rod firmly, making some muscular exertion. In a few minutes,

something like an electric aura is felt, passing up the arm, and it becomes gradually benumbed from the hand to the shoulder. If continued, this influence is diffused over the whole system. I have mentioned this experiment to others, who have repeatedly performed it with entire success.

11. This influence is susceptible of being transmitted from one person to another of the proper susceptibility; and in some cases, the action of all the intellectual and affective organs may be thus transmitted, reproducing in the subject, the sensations, emotions, and thoughts of the operator. This transmission may be made either through the hand, or by direct radiation from the head.

12. The phenomena of Animal Magnetism, are nothing more than peculiar displays of the cerebral functions, and of the laws of the nervous fluid which are established by Neurology.

13. Every organ has certain relations to its class of objects and phenomena in Nature; and there is an exact adaptation of all the inclinations and powers of the different organs, to all the phenomena and objects in the external world.

For instance, each organ prefers a particular color and a particular note in music: it is, therefore, practicable, to determine what style of coloring will be used by a painter, with a given form of head, and what style of music will be the favorite of a certain composer; or to take a particular piece of music, and determine from its notes and measure, the exact effect that it will have upon the different organs of the brain. What we say of music and colors, is equally applicable to voices, language, scenery, gestures, dress, &c. In modifying the cerebral action, I have succeeded not only in changing the inclinations for particular styles of music, or for par-

ticular notes and classes of notes, but have even changed the pitch of the voice; and, in one case, enlarged its compass, making it reach two notes higher and three notes lower than the lady had ever been able to attain before.

The predilections of the different organs for colors, are such as to lie together in the same order of arrangement, which we observe in the rainbow and the prismatic spectrum. I have painted two crania, with the colors of the organs, and the display is as interesting as beautiful. The color of Destructiveness is a dark bloody red, and many of the other organs are as appropriately colored. By operating upon the head of a painter, and requesting him, as I called up various colors to his mind, to paint them upon the organ excited, I obtained a very accurate delineation. In a similar manner, I traced the relation of the organs to musical notes, and established the relations which the musical scale bears to the scale of colors. At some future time, I propose to demonstrate experimentally, that harmonific colors may be displayed by an appropriate apparatus which I have invented, in such a manner, as to constitute a most brilliant and pleasing species of music, to be enjoyed, either independently, or in connexion with vocal and instrumental music.

14. It is practicable, in many cases, by direct operations upon the brain, to revolutionize the character and constitution; to conduct education in a more successful manner, and to treat not only monomania, but many vices and crimes, as curable diseases.

To develope and illustrate the foregoing propositions, is my object in the works which I am now preparing for the press. It is needless to dwell upon the importance of these doctrines to science and humanity. A few re-

marks, however, may be offered by way of additional explanation. But it is not my purpose here to offer more than the general propositions, which may show distinctly the nature of my discoveries. Some of the more novel and important points, relating to the functions of the organs, will be mentioned.

1. Of the senses, we are able to demonstrate the localities of not less than twelve.

|          |         |          |                 |
|----------|---------|----------|-----------------|
| Sight,   | Odor,   | Thirst,  | Thermal Sense,  |
| Hearing, | Flavor, | Hunger,  | Electric Sense, |
| Touch,   | Taste,  | Feeling, | Sense of Touch. |

The number might be increased, by adding others which have a less definite claim to be recognized as distinct senses.

Of the existence of the Electric Sense, my experiments give ample demonstration. I have frequently excited it, until the exalted sensibility became intensely painful. The sensations of my subjects, they declared, were almost horrible. In this state of excitement, even the contact of their fingers with each other, was more than they could endure. The effects of an exalted excitement of the organs of the senses, are almost incredible. I am induced to believe, that with some of my subjects, it would not be impossible to approximate the sensibility, which would "die of a rose in aromatic pain."

The organs of Force, Touch, Heat, Electricity, and Feeling, lie together, at the anterior extremity of the middle lobe. The frontal aspect of the middle lobe, thus possesses an humble grade of intellectual power. The most intellectual of these organs, the Sense of Force, lies most anteriorly, appearing to run into the front lobe.

2. There is an organ producing intrepidity, and an-

other producing physical insensibility, lying adjacent to each other, nearly in the region assigned by Gall to Firmness.

By means of the latter organ, I have made ladies of the greatest delicacy of constitution, capable of enduring severe blows, and even so insensible, as to pull out their own hair freely, without minding it or feeling the pain. In this condition of insensibility, they would strike their knuckles against any solid body, as hard as I would permit them, and feel no sensation of pain until I restored their physical sensibility. Upon the restoration being made, they would complain of the pain in the knuckles from the blow, or of the smarting where the hair had been pulled from the head; and it would become necessary again to diminish their physical sensibility.

3. The antagonists of Self-esteem, and Vanity, lie upon the side head, in the regions assigned to Sublimity, Ideality, &c., which originate admiring and respectful sentiments.

4. The organs of Acquisitiveness and Secretiveness, are in the occiput adjacent to Combativeness, and their antagonists are in the neighborhood of Benevolence.

In exciting the different cerebral organs, I have sometimes, unawares, excited Secretiveness, and found that all of a sudden my intercourse with my subject was suspended. She would answer no questions whatever, and seemed immovable as a statue, by any appeal that I could make. Taking my subject in company engaged in social intercourse, the excitement of Secretiveness would promptly isolate her from surrounding influences, until she seemed unconscious of the existence of any person in the room; as she would hold no intercourse with any one, and gave no symptom of recognition

when addressed. The Gallian system of Phrenology is, however, not entirely untrue in reference to Secretiveness; as secret and roguish dispositions are manifested upon the side of the head, in very nearly the locality to which they were referred by Gall and Spurzheim. That moral species of Secretiveness, which produces personal reserve and modesty—which restrains licentiousness and indecency—which suggests the ideas of clothing and privacy, lies also very nearly as phrenologists had located Secretiveness.

The manifestations of Acquisitiveness, going even so far as to produce theft, in addition to striking displays of Covetousness, left no room to entertain a doubt as to the locality and functions of that organ.

These cases are so striking, and perhaps unique, as to deserve to be briefly mentioned. Mrs. A. and Mrs. B., as we will call the ladies, were the subjects in the presence of their husbands and other company. A. was sitting at the tea-table; the meal having just been taken, when I undertook to make her steal. When she was not observing me, I had placed a few small pieces of money upon the table near her, that she might have something to steal, whenever the disposition came upon her. I began to excite Acquisitiveness; and in a short time, her countenance showed that some impression was made. She noticed the money which lay near her, but made no remark. As soon as she observed that no one was looking towards herself, she seized the money and put it in her lap under the table by a sudden movement; while her countenance showed that peculiar roguish expression, which belongs to those who covet what is around them, but are unwilling to let it be known. Her husband, and others, who had noticed the act, began to enquire and look around for the small change which was

missing. She pretended to be entirely ignorant, and at length denied that there had been any there at all, while she kept it carefully hid under her apron. The search was given up, and the experiment continued, by placing other articles within her reach, and giving her an opportunity to take them. These she stole with more boldness than before, as the covetous passion was growing stronger. Whenever she got possession of an article by any means, she would not give it up; and would very soon hide it in her lap, and deny that she either had it or had ever seen it. If any thing was displayed before her, she would beg permission to handle it, to try it on, to compare it with something else, or to borrow it for a few minutes; and when she obtained possession, she would either claim it upon some frivolous pretence, or conceal it, and deny knowing any thing about it. After displaying her theft and falsehood for about fifteen or 20 minutes, I reversed the operation, exciting a liberal communicative disposition. Her character was reversed in five or six minutes, and she found herself in possession of a number of articles carefully hid in her apron, for the possession of which she could not account. So quick and complete was the revolution, that what had just happened, escaped her as a dream which we forget upon waking. She could not believe that she had stolen the articles, but insisted that they must have been put into her lap without her knowledge, and proceeded to enquire into their ownership and restore them. This sudden forgetfulness, is a common feature of those experiments, in which very great revolutions are made in the feelings of the subject. *Eventuality* must be excited, before they can recollect what they have done and said.

Mrs. B. was tried after Mrs. A., and in about ten minutes, stole a watch from a gentleman who had left it

upon the table; and, having hid it, denied the possession of it entirely. Search was made about the room, and as the examiner approached her, overcome by the fear of detection, she ran out of the room, but was induced to stop in the passage. Her usual manners were quite dignified and lady like; but on this occasion, her manners and expression of countenance were entirely changed from what was natural. By kind promises, I induced her to let me approach her; and, having removed the acquisitive influence, she gave up what she had taken. Upon being asked what was her design when she ran from the room, she replied, that it was to hide the watch out of doors, or to throw it away.

Both of the ladies showed some mortification at the result of the experiment, and an unwillingness to believe when we told them what they had done. Similar experiments were subsequently repeated; and, until I became familiar with the exact location of Acquisitiveness, I found that it would become strongly excited at times, before I discovered that I had touched the spot. The description which, when restored, they gave of their feelings under the excitement, showed that they were urged by an irresistible impulse to take whatever they wished, which made them blind to the nature and consequences of the act. On one occasion, Mrs. A. had been excited to stealing and lying, by Acquisitiveness and Secretiveness; after which, I excited her sense of honor to the highest pitch. She had entirely forgotten what had happened in the former condition; and when accused, stoutly denied that she had ever told a falsehood, or taken what did not belong to her. I excited her Eventuality, and brought the incidents before her mind distinctly. The effect was striking. She sat for some minutes

silent and motionless; as if overcome by horror and shame, engrossed in painful thoughts. I had never seen such a picture of agonized pride. She said afterwards, that she felt as if she wished she could sink into the earth to escape her shame.

5. The organ of Fear lies at the anterior extremity of the region heretofore devoted to Secretiveness.

This being a very powerful and painful emotion, we cannot be mistaken in its excitement: nor have I, in locating this organ, relied upon any slight or uncertain evidence. I may remark of this, as of all the other organs of which I speak with positiveness, that I have pushed their excitements as far as my subjects would permit me to go; or as far as was compatible with a due regard to their health; and, indeed, sometimes to the extent of inflicting temporary injury by the exhausting displays of passion. This is more particularly true, in reference to terror, anger, and grief.

6. The faculties of Concentrativeness and Inhabitiveness have distinct cerebral locations; yet neither Combe, Spurzheim, nor Vimont, has given their locations correctly. Inhabitiveness lies at the angle of the parietal bone, (*punctum ossificationis*,) a spot heretofore assigned to the organ of Cautiousness. Patriotism has a distinct location between Inhabitiveness and Conscientiousness. The organ, heretofore called Concentrativeness, is a portion of the organ of Self-Esteem, producing the love of rank and power.

7. The intellectual organs cannot be properly divided into the perceptive and reflective. They are all reflective, and equally so: reflection is the essence of their functions. The power of perception depends upon the co-operation of certain occipital organs with the intellectual, by which their action is directed to external

objects. With this occipital co-operation, each intellectual organ takes cognizance of what is before it, observing those things to which its function is adapted. The perceptive, knowing, and reflective faculties, as they are at present styled, are, properly speaking, the powers of conceiving physical objects, action or change, and abstract principles. The gradation of the intellectual organs, from the physical to the abstract, admits of six distinct sub-divisions.

8. The separations and sub-divisions of the affective functions, which have been demonstrated, are of some importance.

Mirthfulness, or Humor, is distinguishable from Wit; Gaiety, or Cheerfulness, belongs to the organs which regulate the animal spirits; and Laughter, is produced by an organ in the base of the brain. Expression, may be distinguished from Imitation; and Credulity, from Supernaturality. Our kindly emotions have five distinct organs; three of them lying together: Liberality, Sympathy, and Benevolence; one adjacent to Veneration and Hope, called Philanthropy; and one upon the parietal ridge, which may be called Good Nature. Physical Beauty, Grace, and Refined Sentiment, stand related to three adjacent organs. The same may be remarked of Physical Grandeur, Moral Greatness, and Grand Events, or Displays of Power. Filial Piety proves to be a distinct emotion from Veneration. The organ of the former emotion is one inch from that of the latter, lying between Hope and Marvelousness. Wonder proves to be distinct from Supernaturality, and has a more intellectual location. Our spirits are regulated, not by Hope and Cautiousness alone, but by a series of organs, lying around the head near a plane, which runs through the ears and bisects at right angles the median plane, passing

between the hemispheres. Fancy, Romance, Solitude, Antiquity, Tranquillity, Patience, Zeal, Sincerity, Obedience, &c., are sub-divisions of the moral organs, which are easily demonstrable, and cannot properly be omitted.

9. The intellectual organs admit of an extremely minute sub-division; but we refer only to that of Time, Tune, Language, Combination, System, Eventuality, Motion. We find the power of perceiving special periods, as the time of day, distinct from that of perceiving the succession of events. The power of recollecting remote events, is distinct from that of recollecting the recent. The power of perceiving pitch, is distinct from that of perceiving harmony. The power of articulation, is distinct from that of perceiving vowel sounds. The power of construction, as in building, is distinct from that of combining moving objects in machinery or tactics: this again, is distinct from the more general power of planning. The power of systematizing, is distinct from that of producing order. The power of perceiving light and shade, belongs to a distinct organ from that of color; lying between Form and Size. (Form is situated a little more internally than was supposed.) The power of perceiving motion, belongs to a new organ, just below Eventuality, which is sub-divisible into at least four distinct portions, perceptive of different kinds of motion.\*

10. In reference to the occipital organs, we have important propositions to present. Conjugal Attachment lies not exterior to Philoprogenitiveness, but just above it on the median line. The various forms of attachment produced by the occiput, need not now be detailed; but the general remark may be made, that the moral and

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\* My attention was first directed to these sub-divisions of motion, by finding that an old blind woman, whose sight I had partially restored, was able, under one operation, to perceive the vertical portions of the window sash alone, and under another, the horizontal.

disinterested portion of any attachment is entirely independent of the occiput. Friendship, or love, properly speaking, cannot exist independent of the coronal and frontal organs. The action of the occipital alone, produces an attachment entirely of a selfish and domineering character. I have found some difficulty in settling upon the exact names to be applied to the occipital organs; nor have I yet decided whether to use the names expressive of the compound function which results from the occipital organs acting in conjunction with their antagonists, or those which result from the occipital action alone. To illustrate these remarks, I would mention the fact, that the organ which has been called Philoprogenitiveness, but which really manifests only the animal half of the Philoprogenitive functions, does, when excited alone into predominant action, become one of the most mischievous and malignant propensities, although when operating in conjunction with its moral associate, it is one of the most beneficial to humanity. Having once carried this excitement to a great extreme, the feelings and expressions of my subject became coarse, vindictive, and horrible. They were too revolting to be detailed. Although this excitement was effectually removed, at the time, for some days afterwards the same associations would obtrude themselves upon her memory, and she declared her determination never to have any such feelings revived by an operation upon her head.

11. The organ of Amativeness lies in the internal portion of the middle lobe, in the region containing also urination, defecation, calorification, respiration, &c., with which it is connected. It is immediately surrounded by several organs which originate the acts and physical conditions that are associated with the excitement of Amativeness. The Cerebellum is not the organ either

of Amativeness, muscular strength, or physical sensibility. Its function was better conceived by the older physiologists, than by the more modern. We cannot yet demonstrate the precise nature of the powers, but regard it as controlling the lymphatic and nutrient functions.

12. The various tissues and organs of the body, are under the control of the cerebral organs, which send or remove their supply of blood, and of others which send or withhold their supplies of innervation. The locality of these organs can be distinctly demonstrated by experiments, such as I have often performed, in which the functions of any part of the body may be excited, as far as is compatible with the safety and health of the subject. The range of vision, the muscular strength, or the powers of hearing, may be increased tenfold: the appetite made ravenous, or changed to a loathing of food: any of the principal secreting and excreting organs may be put into action, and kept excited, until the secretion or excretion will either make itself visible, or if internal, will be felt distinctly by the subject. The Physiology and Therapeutics based upon Neurological discoveries, I hope, in due time to lay before the public in a practical treatise.

The light which these discoveries shed upon the subject of Physiological Sympathy, bids fair, not only to render it intelligible, but to reduce all its extremely complicated phenomena, to a few general laws of the most perfect simplicity. Portions of the body, controlled by contiguous portions of the brain, sympathise with each other, in consequence of the direct sympathy of contiguity in the brain, and antagonist portions of the brain establish a reverse sympathy in the portions of the body which they control. Thus we explain, by direct sympathy of contiguity, sudden death by poison, and most of the im-

portant sympathies of the system with the stomach; the effects of fear upon the heart, stomach, and bowels; the trembling and shivering produced by cold; the sudden alternations of heat and cold in uterine and hemorrhoidal diseases; the operations of malaria in producing cholera, fever, ague, &c.; the timidity attendant upon severe diseases of the heart; the melancholy connected with certain conditions of the hypocondriac viscera, and the cheerful hope of the consumptive invalid who is even in the hands of death. By the antagonistic sympathy we explain, for example, the cramps and cold sweats of cholera; the sudorific effects of certain medicines; the operation of heat in producing perspiration, languor, debility, and epidemic diseases; the prevalence of hepatic disease in warm climates; the sympathy of the liver with the shoulder and with the head; the effects of blisters, sinapisms to the back or the occiput in ophthalmia and cataract; the effects of hepatic disease upon the countenance; the fortitude of the victims of cholera; the depressing effects of hunger; the wholesome effects of disagreeable medicines, &c. &c.

In applying the principles of Neurology, to the treatment of disease, as dyspepsia, hypocondriasis, nausea, local pains connected various affections, rheumatism, palpitation, ophthalmia, ophthalmodynia, blindness, intermittent fever, partial deafness, cutaneous eruptions, pericarditis, constipation, coldness of the feet, general debility, &c., I have found ample confirmation of what was developed in healthy subjects. I have found, too, that there is a class of persons, over whom cerebral excitements exercise so prompt and powerful a control, that we may accomplish with them far more than can be accomplished by medication, in a very prompt and precise manner. When any particular symptom, or any peculiar form

of disease exists, instead of administering through the alimentary canal, articles which may affect the whole constitution, producing other effects in addition to those we wish, and often creating additional disease, we address our operations to the exact state of the system and the locality that is affected. A most admirable illustration of this has recently occurred in a case of pericarditis, which was seen by Dr. Caldwell, in the stage of convalescence. That these discoveries, when fully carried out, will effect a revolution in Medical Science, is as certain as the regular course of the seasons. How far that revolution may go in changing the practice, I am not yet prepared to say; but, in regard to the Philosophy of Medicine, it may be affirmed that now, for the first time, we may obtain a sufficient basis for that Philosophy.

I have not yet undertaken the application of Neurology to Monomania, in which it must be our only proper guide. It needs no great sagacity to foresee the benefits which it may confer in the treatment of that disease. A still greater benefit, I anticipate, will be conferred upon humanity, by the successful treatment of an infirmity which has ever been the source of a frightful mass of misery, disease and death—the propensity for intoxicating drinks. I hope, ere long, to show practically that this is strictly a medicable disease. I find in all my subjects that I can with ease produce a thirst for ardent spirits, or remove the appetite when created. The most delicate females, who have never tasted any thing of the kind, and who cannot endure the stimulus of a single spoonful in their natural condition, have been made not only to drink freely and with impunity of strong brandy and whiskey, but to complain that it was not strong enough, expressing a suspicion that it had been mixed with water. The love of stimulus is thus an essential part of our constitu-

tion, and one that may be perfectly controlled. Those to whom I gave so strong a thirst for ardent spirits, were as easily made to loathe the drink which they had just been craving. This appetite, which is not artificial, and therefore cannot be destroyed by moral influences and changes of the habits of society, but must remain through future time associated with human nature as a perpetual source of danger, can be adequately met only by those means which control cerebral action more potently than eloquence, example, or persuasion. These means are applicable when we learn the exact locality of the organ which gives rise to the love of stimulus.

Finally, our System of Psychology and Physiology is completed by the discovery of the true law of co-operation between cerebral organs, growing out of the mutual relations of the hemispheres of the brain, which may be expressed thus: Every organ has another portion of the brain co-operative with its action when excited, serving to sustain, and indeed we may even say, making a part of, its function. The mode in which this is effected, is as follows: whenever any portion of a hemisphere is excited, the circulation of its connected, or opposite half of the body is materially modified by its controlling power, its entire circulation being under the control of its governing hemisphere. Thus, if any part of the left hemisphere is excited, the circulation of the entire right half of the body, including the right cerebral hemisphere, would be changed, and the circulation would be urged with greater impetus to and through particular parts of the right half of the body and the right hemisphere; hence particular organs of the right hemisphere would be called into play, and others retarded by the influence emanating from the left. Each portion of the left modifies, in a particular manner, the circulation of the right hem-

isphere, which, in turn, acts equally upon the left; so that if any organ should be excited in both hemispheres at once, which is the usual course of Nature, each hemisphere will have in action the co-operative organs excited by the other. The exact tendency of each organ of one hemisphere in exciting the other, is determinable by the Pathognomic laws, and is also shown by the harmony of certain functions with each other. Co-operative functions are, therefore, so located, as to be able to co-operate with each other by means of the reaction of the hemispheres, in obedience to the unvarying MATHEMATICAL LAWS of Pathognomy.

The vast magnitude and perfect simplicity of the Psychologico-Physiological system, of which we have stated the principal features, would lead to the opinion that it might be merely an ingeniously devised theory; but based as it is upon experiments, which may easily be repeated, that impression cannot exist long with investigating minds. It is characteristic of all sciences, that, as the multitude of their facts increases, we perceive more and more distinctly the general principles and laws which pervade them; and the heterogeneous mass which fatigued our comprehension, exhausted our ingenuity, and burdened our memory, becomes an orderly arrangement—an easily intelligible and pleasing study. Most especially does this prove true of the most abstruse of all studies, the “proper study of mankind,” which began with Gall to assume the form of an exact science. To this science, under the title of Neurology, the attention of the cultivators of science has been called; and if that call is met in the spirit of Philanthropy, Justice and Truth, the present generation will enjoy in plenitude, the blessings of an educational, moralizing and health-giving science.

LOUISVILLE, KY., APRIL 2, 1842.

**DESCRIPTION, GIVEN BY MESSRS. LYON AND MARTIN,  
OF THE EXPERIMENTS WHICH WERE MADE UPON  
THEMSELVES.**

THURSDAY, MAY 5.

DEAR SIR: The Neurological experiments in which we have recently been engaged, were extremely interesting and instructive to myself, and the more so, on account of the extreme caution and scepticism with which you spoke of the effects which were produced. You seemed determined to admit nothing which was not clear, distinct, and positive: yet from the extreme impressibility of your temperament, were enabled in some cases to describe phenomena as distinct and satisfactory, as I have observed in any other case.

I would like to have you state, in reply to this note, what are your recollections of the experiments performed upon yourself, in what manner you were affected, and with what degree of vividness and reality the various changes presented themselves to your mind during the experiments.

With much respect, yours, &c.,

JOS. R. BUCHANAN.

S. S. LYON.

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LOUISVILLE, May 6, 1842.

DEAR SIR: Your note requesting me to give you some account of the experiments made last winter in Neurology, of which I was the subject, has been received; and, although I feel totally unable to give it with that exactness and order in the detail of the facts that may be necessary for your purpose, I feel desirous as far as my recollection serves, to supply you with an account of all the facts themselves, and of my feelings and observations at the time.

On witnessing your experiment on Mr. Comstock, sometime last winter, for the head ache, after the close of one of the lectures delivered by you at the time, I became desirous of testing in my own person what then appeared to me very extraordinary at least, if not totally above the power of man; and on the night alluded to, at my request, you proposed and tried the experiment of the metallic bar. You presented to me a small bar of iron or steel, seven or eight inches long and about three eighths of an inch square, with a polished surface. I was directed to take one end of the bar, while you took hold of the other end, which you appeared to grasp tightly, desiring me to hold the end in my hand loosely, or without grasping. I was full of suspicion of imposition, and was as watchful as I was capable of being, that I should not be made to deceive myself; at the same time I was as careful to note any unusual feeling that I might have at the time of the experiment. Thus guarded, I must say that to my great surprise I felt what appeared to me like the shocks from the Magnético-Electric machine, (which I had tried at Dr. Smith's sometime previously,) with this exception, that the tremulous motion appeared to be more rapid, and of much less power. The experiment has been repeated often since in yours and the hands of others, with varied effect and force. In the hand of some, with sufficient force to benumb the arm; in the hand of others, with no sensation whatever.

You will, no doubt, recollect that during the time of the experiments before the committee of the medical class, that I was made the subject of experiments of another and different order. You, at that time, tried the effect you might be able to produce in me, by exciting the different portions of the cerebral mass, by applying the fingers to the surface of the head and face. At the time

of this experiment, I was not acquainted with your location of the organs of the mind in the brain. You will probably recollect, that the effort you made to excite the posterior portion of the head, did not produce results so striking as you had anticipated. The only effect of the application of the fingers to the back part of the head was, if any, to dull the desire I might have had to continue the experiment. I did not care about any thing—was not concerned—perfectly indifferent. This was not of very long duration, however. I observed a burning sensation on the head where your fingers were placed, and desired you to desist.

I recollect you then proposed to the committee to write the effect you intended to produce, so that I might not be able to know the effect intended. Several experiments then followed. You were able to give the committee satisfaction on many of them. Two only, as near as I can recollect, failed to satisfy them. The experiment intended to modify the pulse, and the one intended to direct my thoughts to the future. I was perfectly satisfied myself, of your most complete and entire success in the latter. That my thoughts were irresistibly directed to the future, I am fully assured. The committee supposed that the questions of some one of themselves had given that tone to my mind, and they did not consider it conclusive. I will at this place note, that all the experiments of this character, of which I have been the subject, have produced a burning sensation on the scalp where the fingers have been placed. The sensation produced on any part of the top of my head has been of such a physically painful nature, that I have not in all cases been able to carefully note my mental feeling at the time.

One experiment I will note particularly. At the time

you were operating to direct my thoughts to the past, the questions of the Committee led me to suppose you were trying to operate on the part of the head to induce thoughts of the future: but I could not direct my thoughts to the future, although I repeatedly tried to do so. They immediately returned to the past, and were fixed on the things of my earliest boyhood—of friends who had long since passed away; and, with all my efforts, I was not able to dwell on any event that had happened at a less distant period than twenty years. I was truly disappointed, when I found that you had been trying to induce the very order of feeling I had just passed through.

The part of my head which you are kind enough to say is in the most active operation, is easily affected. I am strongly affected by the experiments on the top and front of the head; less so on the side, and much less on the back of the head.

There were also performed by you a series of experiments, of which I was the subject, in which you proposed to ascertain if possible, if it was a fact that the different organs when excited would direct the mind to one color in preference to other colors. Under the operation of the excitement of most of the different organs of the brain, my mind most promptly directed itself, or was directed, to various colors; differing according to the organ operated upon (or the part of the head subjected to the touch of the fingers.) In almost all of the experiments of this character, the choice for positive colors, or a compound of colors, making a tint of an intermediate character, was remarkably decided and fixed during the operation; and any color not in harmony, or the opposite color, was offensive to the sight in a positive degree. The experiments of this character were continued, you are aware, during the period of several days, with uni-

formly the same effect, but in different degrees. Some of the operations produced in my mind when the eyes were closed a positive and vivid perception of the most vivid color, which was by a change in the operation promptly changed, and another color substituted in its stead. Some few experiments were made in reference to sounds; but as they were not carried to any great extent, I am not capable of judging as to the uniformity of effect produced, or that in all cases the tone received any very positive fixedness in the mind. Some of the tones were definitely fixed, as A natural, D natural, F sharp. You will excuse the manner of this statement; and should any of the statements need explanation, I shall at any time be most happy to afford any further explanation that be required.

Yours, very respectfully,

SIDNEY S. LYON.

DR. JOS. R. BUCHANAN.

LOUISVILLE, May 5, 1842.

DEAR SIR: The experiments upon the cerebral functions in which we have recently been engaged, were extremely interesting and instructive to myself as operator, and I believe almost as much so to yourself as the subject.

As you have been the subject, and felt the true character and exact extent of these operations, much more definitely than I could conceive them, I would be much gratified to have your views on the subject in full.

Yours, with respect,

JOS. R. BUCHANAN.

A. MARTIN, *Resident, Marine Hospital.*

*Louisville Marine Hospital, May 6, 1842.*

DEAR SIR: Your note of the 5th instant is before me, in which you request me to give my "views in full," in relation to the experiments that were performed upon me, by yourself, and particularly my views concerning NEUROLOGY, previous to the time I was subjected to experiment.

I do not know that I was ever ready to believe in ghosts and hobgoblins, or to take any thing as being true, without the most convincing proof. If my memory serves me correctly, I saw you for the first time, sometime in the latter part of November, 1841. I was informed that you had been teaching a new science, under the name of Neurology, and that you had been performing miracles by placing your fingers or hands upon certain prominent points of the cranium, and performing various other manipulations upon the people's skulls. I said to myself, is it possible that a man possessing ordinary sense, will, in this enlightened age, attempt to palm off so great an imposition upon the public? Will he, said I, come to Louisville and make us believe that he is an inspired man, and that he has only to touch the surface of our scalps to take the control of all our faculties?

In about ten days from the time I first saw you, you called at the Hospital to obtain a particular skull, (I was absent,) and left me a note enclosing a ticket inviting me to attend your lectures. I came to the conclusion that I would go, and if possible try to detect, if there was any thing of a dishonest character connected with your proceedings. I do not recollect whether any experiments were performed the first night I was there or not; but this I do remember, that the first experiment I saw performed, was with a view to lessen the sensibility of

one arm and increase that of the other. The name of the gentleman upon whom this experiment was performed, I do not remember; but he appeared to be a man of much respectability and intelligence. Your fingers were placed upon either side of the head, in the temporal region. After about ten minutes had elapsed, your subject said he felt a numbness in one arm and an increased sensibility in the other. You said to him, "are you sure that you feel a distinct influence from this?" His reply was, that the effect was very distinct. I thought the gentleman's imagination had great effect in making him feel this influence.

The next experiment was performed on Dr. K., and he, not knowing what effect you wished to produce, I thought you would fail. But in a few minutes, Dr. K. said he felt as if he would delight to engage in religious exercises. His countenance presented a very grave appearance, and all his features showed that he was in an unusually serious mood. Your fingers were then removed to a different part of the head, and remained there a few minutes, when Dr. K's countenance became greatly altered. Upon being asked if he still felt like engaging in religious exercises, he burst into a laugh, and said his religion had left him, and that his greatest delight would be to make a disturbance or engage in a fight.

Knowing that his disposition was a very kind and hospitable one, I thought it very strange that he should be thus affected from what I considered no cause at all. I again thought his imagination had materially influenced him in feeling these traits of character, which he described. But when I reflected farther, I saw a great difficulty in attributing this to his imagination, as he had no previous

knowledge of the effect which the experimenter intended to produce.

The next experiments were performed upon two or three members of the class successively, and among others, I was made one of the subjects of experiment. As I knew what effect you wished to produce in me, I came to the conclusion that I would resist it to the last, and make sure that my imagination did not influence me to feel at your pleasure. Your fingers had not been placed in their proper position long, before I felt a curious sensation about the tip of my tongue. It is difficult for me to describe my exact feelings at the time, but I felt vexed at being disappointed so far in the resolution I had just formed; and when you asked me if I felt any effect from the experiment, I hesitated to answer, for fear I would let you know that you had succeeded in accomplishing your purpose. But as you had asked me a civil question, I felt myself bound to give an answer, and accordingly replied "No sir," with a lisping sound. The members of your class broke out into a hearty laugh, when they heard me say I did not experience any influence from your experiment, seeing plainly that I could not talk without lisping.

This experiment forced me to pay some regard to the doctrines which you were engaged in teaching. I then fancied that I had a little inclination to lisp in my general conversation; and, consequently, that the influence which you had exercised over me, was explained upon that ground. But it still appeared rather strange why I had not before noticed it. The following evening I went again to your room, where I found a number of gentlemen with whom I was acquainted. Among others, I saw one whom I knew to have been long engaged in teaching such doctrines as would very materially favor

Neurology. Being assured that it would tend to strengthen his views of a subject in which he had been so long and ardently engaged, I had a strong desire to make him feel that his notions, which he had so zealously and industriously propagated, were erroneous.

Being fully under the influence of these feelings, I summoned all my powers of resistance, in order that I might prove to the old veteran that he for once was mistaken. I did not know what effect you wished to produce; but I thought, with my efforts, I would prevent you from producing any effect whatever.

After placing myself in a chair, much elated with the resolutions I had just formed, your hands were placed upon the top of my head and forehead. In the course of fifteen or twenty minutes, I felt a sensation of stiffness in my eyelids, together with an inability to keep them open. Up to that time, I had not found out what you wished to do; but I soon became convinced that it was your object to produce sleep. I then endeavored to think of things of a laughable character, which I thought would more effectually prevent you from succeeding. It was not long before I found all my resistance vain. Although perfect sleep was not produced, I was in such a condition that I could hear but indistinctly when I was spoken to. I thought I was in my room, lying upon my bed, and my room-mate was asking me a great many unnecessary questions, with a view to agitate me and keep me from sleeping.

I felt after I was aroused from my sleep, very much disappointed and confused, to think that I had been so much overcome,\* after having been so perfectly certain that I would be able to resist it, and thereby make our

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\* Mr. M. was so overcome by sleep as to slip from his chair, and was aroused by finding himself falling to the floor.

friend (Professor ——) doubt his favorite doctrines. I felt very keenly the same disappointment which I had been anxious to give the friends of Neurology. This experiment convinced me that there was much truth in the new science. I knew very well that it would be an unpopular thing for me to say that your doctrines were correct; but I hope always to have sufficient honesty to enable me to speak the truth, even if it be unpopular.

In giving a description of my feelings under the exercise of the various cerebral organs, I would remark, that in my case, the effects must have been independent of any influence of the imagination, except when I endeavored to imagine something different from what I might suspect to be your object. It appears to me plain, that the imagination cannot so far influence *a man of common sense*, as to induce him to believe that he is sick at stomach, or has a violent pain in the head, when he has not in reality. So with regard to your mode of making manifest the various functions of the cerebral organs. But to illustrate more fully my point, I cannot see what imagination would have to do with that of which a person is entirely ignorant. Suppose your object was to excite the organ of Reverence in a person who was wholly unacquainted with the location of that organ, the technical meaning of the term, or both, what influence could the imagination then have in producing a feeling of reverence?

I will now proceed to give as faithful an account as I am able, of the influence which your experiments had upon me. As you are aware, it is much easier for me to feel these influences than to describe them; but perhaps I may be able to give you some idea of them, if I tell you the first ideas that were suggested to my mind when the influence was first felt. When those organs were

acted upon, which give the mind exalted and thrilling ideas of supernatural things, the first effect would be to cause me to think of such things as would prove the existence of a superior power who created them. It led me to reflect upon the vastness of the universe, and the supreme power which created it, and all things therein. Indeed, I could not reflect for a moment upon these subjects, without feeling an almost irresistible desire to talk about them, and attempt to prove the existence of a God by a reference to portions of creation, the formation of which, required the agency of a power superior to that possessed by terrestrial beings.

When those organs which preside over the abdominal functions are brought into action by your mode of experimenting, (for example, that portion of the brain which controls the functions of the liver) the first sensation would be a sense of fullness and weight, or tightness and constriction in the region of that viscus. \* \* \*

When thirst is excited, (thirst for water,) it comes on with a dryness in the back part of the mouth, in the region of the fauces, and is accompanied with a disposition to be restless and dissatisfied. When a thirst for stimulating drinks is produced, the spirits are depressed, making me fretful and dissatisfied with things around. The mind is disposed to go from one thing to another, and looks with a suspicious feeling on persons who before were not suspected. \* \* \*

The ideas which were presented to the mind when that part of the brain was called into action which induces one to think of home, were the situation and appearance of things with which I was familiar in the days of childhood.

If hunger be produced, I feel a desire to speak cross when questions are asked, and an unfriendly feeling to-

wards animals. Under the excitement of Patriotism, the mind is directed to the character of those who supported and protected the institutions of our country—the battles that were fought, and the insults offered by other nations to our own country. Playfulness presents to the mind a variety of inclinations and feelings; it causes us to feel an increased delight in conversation; a desire to engage in active exercises; to look at and talk upon subjects of an agreeable and exciting character.

The organ of Destructiveness, when brought into action, gives a feeling of delight in seeing things destroyed and deranged. It is attended with a feeling of shyness and deceit; and, if indulged in, would lead one to do his neighbor some injury. It gives a delight in hearing the fire bell ring, and vexation if it proves to be a false alarm.

I well remember a circumstance that took place recently, which resulted in a hostile meeting with a resident of this city, in which my feelings were excited to the highest pitch of exasperation, and an impression made upon my mind which kept the scene and all its feelings continually present by day and by night. I always feel, after such scenes, a great desire to find some means by which I can get redress for the injury; and I am constantly at work, contriving plans for the accomplishment of that object. This feeling remains with me about eight or ten days, before I can control it, by any effort that I am able to make.

In the afternoon of the same day on which this occurrence took place, you called at my room and attempted to experiment upon me; but to your disappointment, could not succeed in producing any effect, except upon those organs which increased my ill-natured propensities. The next day you called again, and, much to my gratifi-

cation, I was completely relieved from my unpleasant feelings. This you did by exciting the moral organs, and thereby counteracting the strong action which had been set up in the less friendly ones.\*

I find it possible for one, who has had some instruction in matters of this kind, to influence his own mind to some extent, by placing the fingers or hands on certain parts of the cranium. It is a practice frequently made use of by persons who are wholly unacquainted with Neurology, or any science connected with it. I have frequently seen persons, while endeavoring to recollect the name of some particular person or thing, place their hand upon their foreheads, and perhaps close their eyes at the same time; and in this condition, they would remain for several minutes, and succeed in recollecting names and places which they had forgotten. I do not mean to say, that this can always be done, or that this is a universal custom; but that it is practised by many, no one will deny who has taken any pains to observe it.

Mechanics, who are in the habit of using tools that require to be of a certain temperature, can very readily judge of the degree of heat, by holding them near the side of the head, where the organ of sensibility to heat is located. It is true, they can, and frequently do test the degree of heat by other means; but experience has taught them, that they can test the heat, with more exactness by holding the tool near the side of the head, than by any other ordinary means they may have at their command.

Numerous are the facts that might be mentioned in my own personal experience and experiments that I have performed upon myself; but time will not allow me

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\*I did not succeed in controlling the excitement, until I operated upon one of the moral organs which I call Tranquillity. This restored him in ten or fifteen minutes to his natural frame of mind, and banished the disagreeable recollection from his thoughts. J. R. B.

to give a detail of them all. I must, therefore, rest contented with the few facts I have enumerated, hoping that those who may feel interested in this matter, will examine for themselves. My duties compel me to close this communication.

I beg you to accept my grateful acknowledgments for the valuable instruction which I have received, and for the pleasure which I have derived from your Neurological discoveries.

I am sir, with respect,

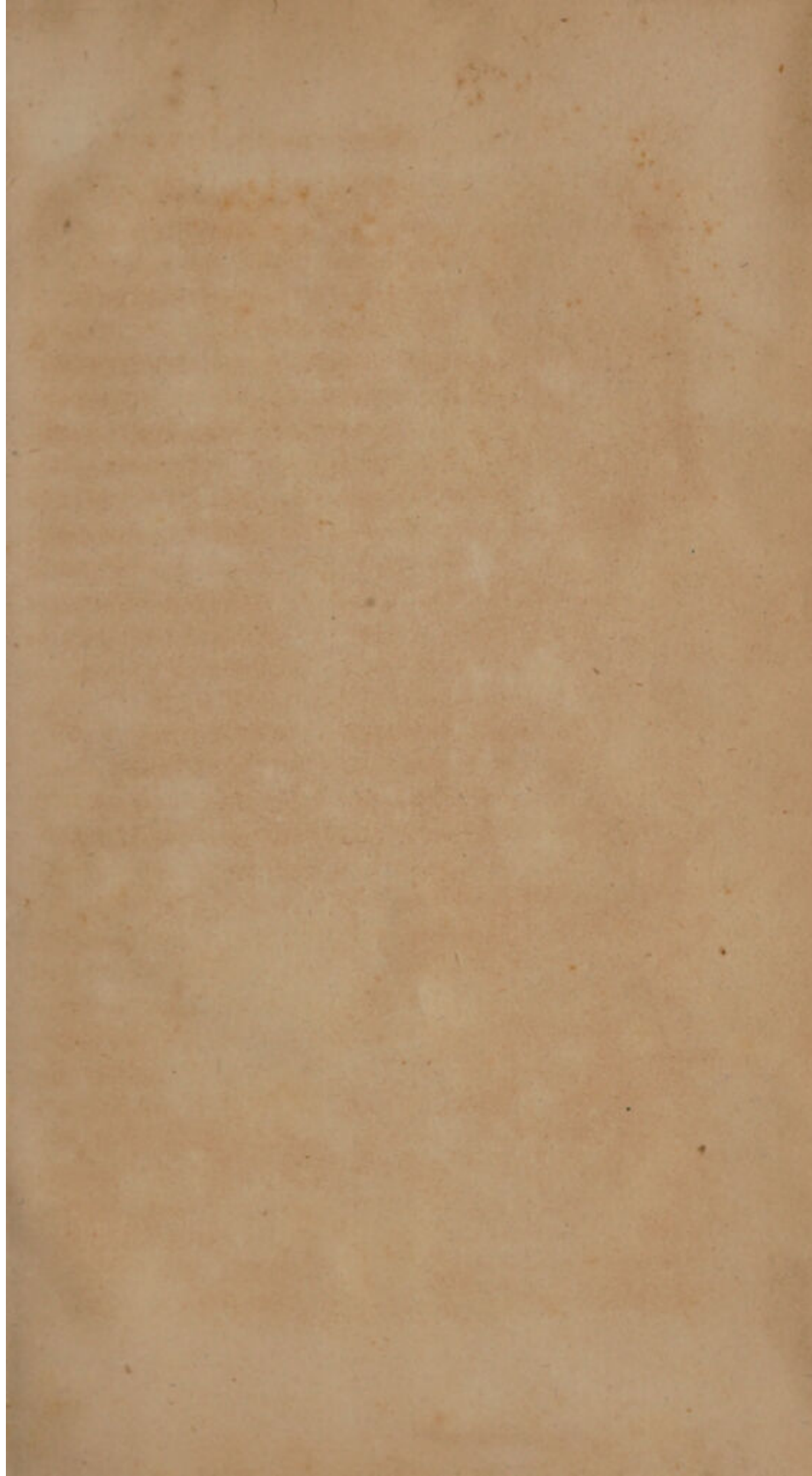
your humble servant,

AMZI MARTIN.

DR. JOSEPH R. BUCHANAN.

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TO THE READER.—The documents which form this pamphlet, are extracted from the Appendix of the forthcoming "Illustrations of Neurology;" in which the principles of that Science will be illustrated by a series of original experiments.



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