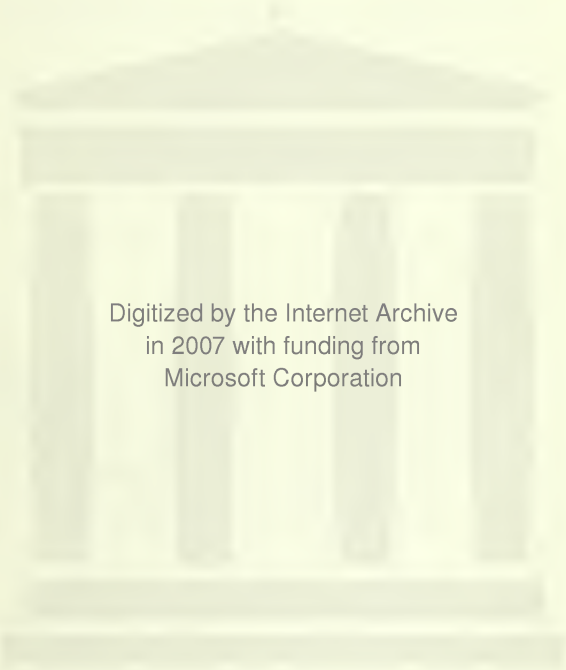

WINDOWS OF CHARACTER

AND OTHER

STUDIES IN SCIENCE AND ART.

BY

REV. EDWARD PAYSON THWING, M.D., PH.D.,

FELLOW OF THE LONDON SOCIETY OF SCIENCE, LETTERS AND ART, MEMBER OF THE BRITISH MEDICAL ASSOCIATION, VICTORIA INSTITUTE, NEW YORK ACADEMY OF SCIENCES, ACADEMY OF ANTHROPOLOGY, N. Y. MEDICO-LEGAL SOCIETY, ETC., ETC.,

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TO

SIR JAMES GRANT, M.D., F.R.C.P., Lond., etc.

IN TOKEN OF HIS PERSONAL AND PROFESSIONAL WORTH,

THIS VOLUME IS, BY HIS FRIENDLY PERMISSION,

RESPECTFULLY DEDICATED.

The artist first makes his study. It may be a mere outline of what he is to paint, a fragment, a memory, yet full of suggestive hints for future elaboration.

These papers are but STUDIES in Science, Art and Character; Thoughts for Thinkers. They outline, rather than finish; they recall, suggest, analyze. The synthesis that begins with careful analysis, ends in a system, not in a hypothesis. If abler hands find helpful data here, the author will be amply repaid.

Citations in one paper may perhaps be found in another. These are not, however, vain repetitions. References to local circumstances made in the original addresses are preserved. They will not detract from the general interest of the themes presented. The aim of the whole has been to verify the beautiful figure borrowed from the ancient Athenian torch race,

"WE, SWIFT RUNNERS, PASS FROM HAND TO HAND LIGHTED TORCHES."

To the thousands who have honored him with their patient hearing in the lecture room, the college or the church, on either side the sea, these silent pages give again his grateful greeting.

Αλλήλοις διαδιδομεν τρεχοντες λαμπαδας.

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WINDOWS OF CHARACTER:

THE VOICE, THE EYE, THE HAND, THE STEP.

It is a joy to me, this bright, June morning, to talk to you, students of Euston College, about Life and Character, their silent forces and their grand results. One of your own poets has said that life is a casket, valuable not for itself alone, but for what you put into it. Life is not measured by years, but by deeds. It is rich and royal, grand and opulent when filled with thought and effort, love and labor, aspiration, toil and victory! It is a June morning with you all. It is early autumn with me. But the Alps lead to the Appenines, the glacier to the vineyard, and January leads on again to June. Life's autumn and winter bring in eternal summer. As the morning is the prophecy of noon, so is youth of manhood and womanhood. The golden gates are just opened to you, dear friends—the doors of opportunity—but soon, as with me, they will begin to swing the other way. Be

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Delivered at Euston College, London, June 27, 1882.

earnest, then, to make the most of life and its magnificent possibilities! Follow the advice of Holmes in his "Nautilus":—

Build thee more stately mansions, O my soul,
As the swift seasons roll!
Leave thy low vaulted past,
Let each new temple, nobler than the last,
Shut thee from Heaven with dome more vast,
'Till thou at length art free,
Leaving thine outgrown shell by life's unresting sea!

The silent forces of character and their grand results, who can even catalogue them, still less describe? The will, the conscience, memory, imagination, the judgment, the sensibilities and the affections—all those glorious gifts that form the dowry of each—richer than all Victoria's jewels, how I should love to talk to you about their place, their possibilities, and their discipline. But there are, among many others, four indices of character to which I wish to turn your thought: the Voice, the Eye, the Hand, the Step. We will call them "Windows."

Character, like an illuminated cathedral, reveals itself through many windows. Some men, indeed, are more transparent than others. The distributive and penetrating power of personality varies with individuals. Some, like the cathedral, are luminous with commanding beauty, vocal with music, and shed an atmosphere of warmth and fragrance about

them. The savor or flavor of others is so subtle and elusive that you can not at first detect it. The melody of some shrinking souls is so quiet that you do not catch it. There is no speech or language; their voice is not heard; yet their influence goes out through all the earth, and their words to the end of the world. Some vainly seek to veil the windows and to shut in the incense and the song. They fancy that spirit can be caged, pent in by bar and bolt, by hasp and clasp of self-restraint and silence. But it is impossible for one to thus stand guard over himself and hide the revelation of his inner life. Character is self-revealing, as ointment on the hand, Solomon says, betrays itself. Whether we will or not, this spiritual efflux, call it character, influence, deportment, or whatever you choose, will disclose itself.

This physical, mental, and moral atmosphere we are to analyze is what some have termed "the magnetic sphere." It belongs to a person as inevitably as the light belongs to the sun, or odorous sweetness to an orange-grove.

The importance of understanding all that goes to make up one's bearing can hardly be overestimated. To old or young, to peer or peasant, this knowledge is a key to success anywhere. "Prepare yourself," says Chesterfield, "for the world as the athletes used to do for their exercises; oil your mind and your manners, to give them the necessary suppleness and

flexibility; strength alone will not do." Noble manners are not bred in moments, but in years, as Bishop Huntington has said. They come "of goodness, of sincerity, of refinement. The principle that rules your life is the sure posture-master." The bloom on the peach and the golden hue on the corn came from maturity within and not through human art. So we can get out of life and character no more than we put in. The external refulgence is measured by the inward illumination.

The Eye, the Voice, the Hand, and the Step are four prominent windows out of which designedly or unconsciously every one's personality shines. Windows vary in size and in clearness, and so with these avenues through which the soul's life hourly pours. The principles, however, that we are to examine remain the same in all the diversities of application.

The Human Eye.—The great engineer Stephenson was once asked the mightiest power in nature, and he said that it was a woman's eye, for it would send a man to the ends of the earth, and that same eye would bring him home again. Some eyes are so liquid and deep that Emerson fitly calls them "wells into which one might fall." Others, he says, have no more expression than blueberries. Some are asking eyes, some assertive, some prowling, some full of bayonets. "The eyes of men converse as much as their tongues, with the advantage that the ocular dialect needs no dictionary, but is understood all the

world over. Each man carries in his eye the exact indication of his rank in the immense scale of men, and we are always learning to read it. The reason why men do not obey us is because they see the mud at the bottom of our eye."

It is said that gamblers rely more upon the expression of the eye of their opponent to discover the state of the game than upon anything else. Bushnell tells of a preacher he knew whose eyes were "six-shooters," keen, gray, individualizing, loaded with thought and emotion, and leveled directly at each hearer in turn. There was no special merit in the style or substance of his speech, but his penetrating eye made every one feel that eye-bolts were shooting surely and swiftly into the very soul. Of some eyes Shakespeare says:

> " They are the books, the arts, the academies
> That show, contain, and nourish all the world."

Tennyson tells of other eyes that are "Homes of silent prayer." In Eber's "Egyptian Princess," Sappho's lover said, "If you had whispered 'I hate you!' your eyes would have told me with a thousand glad voices that you loved me."

Brutes are kept at bay by the eye. The tamer and trainer govern, by a glance, creatures that could easily crush them did they know their power. So the human eye is at once a weapon of defense and assault of incomparable strength. "Next to the voice in

effectiveness," says Cicero," is the countenance, and this is ruled over by the eyes." In Delsarte's system there are seven hundred and twenty-nine expressions of the eye, grouped of follows: normal, indifferent, morose, somnolent, contemptuous, deeply reflective, surprised, and resolute. But, as in music, so here, the chromatic scales and gamuts of expression beggar all description. Darwin's work on the "Expression of the emotions of Men and Animals" is a helpful treatise.*

The matter of facial expression is a copious subject, and will find fuller treatment as we study another of the avenues through which one's character and personality find outlet, the voice.

THE VOICE.—This is regarded by many as the truest index of character. The mouth has two thousand one hundred and eighty-seven well-defined phases of expression, thrice those of the speaking eye. The lips are "curved and channeled with the memorials of a thousand thoughts and impulses." In the beautiful phrase which Wordsworth applied to the mountains, it may be said, the lips "look familiar with forgotten years," recording, as they do, the history of the life of which they are the instrument of expression. Here, however, we trench on the domain of Physiognomy. It is the voice itself, rather than

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* *Vide* Thwing's "Drill-Book in Vocal Culture and Gesture," pp. 91-111.

its mechanism, that we have to do with. This is "the key-stone which gives stability to all the rest," says Dr. W. M. Taylor. Effective utterance gives force to feeble thought, "while careless, hesitating, and indistinct speech will make the finest composition fall flat and powerless on the listener's ear." It was the inward life that gave the speech of Christ that mysterious power it had over men. "Never man spake like this man," they said. As Jerome says of Paul, "His words were thunder, because his life was lightning."

As we contrast the sparkle of the eye in a vivacious, intelligent youth, with the vacant stare of a microcephalous idiot, so we may set over against each other the indistinct, muffled, and reluctant tones of a person who is shamming, or trying to conceal truth, and the clear, clean, frank tones of another who speaks with the emphasis of conviction.

The masterful power of Mirabeau, it is said, was in his larnyx. "He ruled tumultuous assemblies, not by the lightning of his thought, but by the thunder of his throat." But there was a vehement soul beating below his larynx that revealed its passionate emotion in tones that electrified an audience. Speaking of the witchery which the voices of certain dramatic artists possess, M. Legouvé, of the French Academy, says: "It seems as if there were a little sleeping fairy in their throat, who wakes as soon as they speak, and, touching them with her wand,

kindles in them unknown powers. The voice is an invisible actor concealed in the actor, a mysterious reader concealed in the reader, and serves as a blower for both." The hidden fairy that sleeps in the singer, actor, or orator is Emotion. Only what is *in* the soul can come out of it. As Prof. Mathews justly observes: "The magnetic force must saturate one's own spirit before it will flow out upon those around him—an invisible efflux of personal power which radiates like heat from iron; which attracts and holds an audience as a magnet draws and holds steel-filings."

A lecturer once asked a hearer at the close of the lecture: "What did you think of my train of thought?" "It lacked only one thing." "Pray what was that?" "Your train only needed a sleeping-car!" A drowsy heart will inspire sleepy tones, to lull, like poppy-juice, those on whom they fall; whereas an electric nature makes a man a magician, like Antiphon at Athens, who affirmed that he could heal mental diseases with words, or, like the modern psychologist, who works similar marvels, by his voice alone. The fiery invectives of Burke made Warren Hastings feel for the time that he was "the most culpable being on earth." Philip of Macedon said of Demosthenes: "Had I been there, he would have persuaded me to take up arms against myself."

A glowing, ebullient nature not only sets "logic on fire," producing what is called eloquence, but often

exerts a more commanding power over a hearer. Mere oratorical eloquence we can admire, analyze, and criticise, but with a magnetic vocal delivery we are spell-bound in spite of ourselves.

THE HAND.—This furnishes us with a third index. I do not refer to the assumptions of Palmistry or Chiromancy, that is, divination by the hand. In the dark ages Paracelsus and others elaborated a system by which they pretended to find out one's destiny by examining the lineaments of the hand. Wandering gypsies still continue the imposition among the credulous and curious. The shape and texture of the hand and other physical features do, indeed, reveal much of the temper, the health and the employments of the possessor, but it is rather with the conscious and unconscious movements of the hand that we now have concern.

What to do with the hands is a difficult question with the callow youth and the untrained speaker. Their self-consciousness is shown by this form of embarrassment. As character is matured, some skill at concealment is gained, but after all, the motions of the hands, taken in connection with other acts, betray feeling and purpose to one who has studied their signs.

THE PANTOMIME is a vivid illustration of the power of "pictures in the air" to reveal intention. In its rudest form, gesticulation was the silent language of barbarians. It is said that one could have traveled

from Hudson's Bay to the Gulf of Mexico, centuries ago, by the help of the pantomime. Only six of 150 signs used by the Indians of that day need explanation. The oriental "winketh with his eyes, speaketh with his feet and teacheth with his fingers." Prov. vi., 13. Canova once held a silent interview with a Neapolitan by hand and eye alone. These quick motions of the hand form the alphabet of mutes. One of them will tell the story of a shipwreck, for example, so that an intelligent idea is gained of the thrilling scene. By "the talking hand" Greek audiences were held hour after hour, entranced by this form of mimetic art. The general use to-day of pen and type has made us poorer in certain resources of impressive speech.

Character in gesture is revealed in much the same way as in vocal tones. The positive man uses a vigorous downward motion, as he uses downward inflections of voice in strong, assertive utterances; the apologetic person uses slower and less forcible gesture, as he speaks in quieter tones. The glowing imagination naturally indulges in descriptive gestures wider in range than those which accompany merely didactic speech. Mobility of the hand, as of the mouth, is not altogether a natural gift.

Culture gives wonderful expressiveness, not only to conscious, but to involuntary motions of the hand, as to those of the head. Delsarte says that an educated man, wishing to look at an object on either

side, will turn first his eye, then his head, and lastly, if needful, the whole body, but a clown turns with one motion and at one moment, eye, head and body. This whole matter is thus connected with the last point.

THE STEP.—Your coach is a deceptive index of your true condition in life, but by your "carriage" you are known and read of all men. It is more than a figure of speech when the Bible associates character with one's "WALK and conversation," and again, when it says, "having done all, stand." "The drill-master's first command to the soldier is, "Stand well!" The apostle's last injunction is the same. God's special blessing is on the upright. Such are likely to be downright. Positive characters and weak ones are thus distinguished. The reveler reels, the miser stoops, and the voluptuary yawns, but the true man shows his inward disposition by his outward bearing. He stands, not as the pugilist or fencer, with one side advanced, as in a hostile attitude to give or to take a blow, but *æquo pectore*, uniting self-possession and dignity with gentleness and grace. One's manner is more than his manners. The latter are acquired and are often so artificial that we call them mannerisms, and regard them offensive. But one's mien or air is inclusive of far more than those arts and artifices learned in the schools. The whole outward appearance, including the dress, goes to make up this atmosphere which

one carries wherever he goes. His habits make his "habit," the garb in which, and by which he is known day by day, a "second nature," as we say. His custom becomes a costume, which he rarely lays aside. As Dryden says:

> "The habits are the same
> We wore last year."

> "When we strive
> To strip them, 'tis being flayed alive,"

adds Cowper, with profound truth.

The wiry, nervous man moves with rapid gait; the phlegmatic man with heavy step, and so on with various temperaments. Then there are other principles that form a test, illustrated, for instance, in the stealthy, creeping movements of the thief, the halting step of the inquisitive, or the aimless walk of the day-dreamer. "I know that man has been a soldier," said one. "How?" "I know it by his walk." He carried the trunk and shoulders steady and firm, while the motion of walking brought into action the lower limbs. The turning in of the toes is not a favorable sign. Some associate it with mental weakness. A shuffling gait is another tell-tale sign of character. But to go into details would require a volume. A school to teach youth to walk has been established in Philadelphia. A noble, graceful carriage is a more useful accomplishment than dancing. If shoemakers will only help the teachers of such a

school by making sensible shoes, there might be hope of seeing here the graceful step one notices among the humblest Spanish peasants. But art will never impart the polish which true culture gives. It is the soul within that illumines the face, that gives a persuasive charm to the voice and perfection to gesture and to step. Here ethics and æsthetics unite. It is "by his personality," as Goethe says, that man acts on man. If one wishes to charm or to command by either of these functions it will be through the culture of the moral sensibilities, largely. By such a training, a person will come to wield by his walk and talk, his eye and his unconscious gestures, a power over his fellows alike masterful and beneficent.

Pope truly says,

> "WORTH makes the Man, and want of it the fellow. . .
> 'Tis from high LIFE high Characters are drawn."

This is a daily work. As Longfellow saw the village smithy toil from morn to night, something attempted, something each day done, so

> "at the flaming forge of life
> Our fortunes must be wrought;
> Thus on its sounding anvil shaped,
> Each burning deed and thought!"

Then, fellow students, will your character, like the illuminated cathedral, full of light, melody and incense, pour out the same from every window. Your eyes and lips, your hands and feet will unconsciously

reveal a knightly soul, sweet, radiant, commanding.

Again I congratulate you on your privileges in this college, in this historic city, and in this goodly land. You wear the scholar's gown and cap. Put on, as well, the true manliness of the scholar, and let your lives grow richer and more resplendent as the years roll by. Then will your earthly studies fit you the better for the fellowships, employments and enjoyments of a better life.

> "We bow our heads
> At going out. We rise and enter straight
> Another golden chamber of the King's,
> Larger than this we leave, and holier."

A PERSUASIVE VOICE.

There are various voices of Nature. Last Tuesday I spent an hour of restful enjoyment on the cliffs at Eastbourne, overlooking the shining waters that divide these shores from France. It was a season of serene solitude, undisturbed by foot or voice of man. Alone with nature and with nature's God, I learned lessons that I could not learn here in the roar of London. The bright tranquility of earth and sky and sea lifted my thoughts to heaven's crystal sea. The day previous brought a storm, and that had voices too.

The seasons have their changeful speech, winsome and austere by turns, but always admonitory. Youth has its voice, when every step is a bound, and every breath a song; age, too, when the daughters of music are brought low. Life in all its phases of grief and joy, at home and in lands remote, has its voices. The closet, the sanctuary, the cemeteryhave theirs, in a figurative sense, but the Human

Delivered July 29, 1883, at Tolmer's Square Church, London.

Voice is a reality more potent and palpable than those already named. It is a marvelous weapon of assault, defence or persuasion. It has a capacity for improvement immeasurable. In song and speech, in prayer and praise, in oratory and in argument, it is a power of which we have but a feeble conception. Each of these "mouthfuls of air" is a blessing or a bane, for life and death are in the keeping of the tongue. More august, however, than human speech or any of the voices of nature was the "Voice from the excellent glory," of which the apostle speaks—2 Peter i. 17. It is not earthly or angelic, but deific. Yet it is intelligible, authoritative and consolatory. This celestial voice loses none of its sweetness and purity by coming down into the dissonance of a noisier sphere. Some of you have heard the famous Antwerp chime of bells, ninety and eight of them, that have for centuries been ringing through storm and sunshine; now a marriage peal, now a funeral knell; as cheerfully when Castilian butchers made the streets run red with martyrs' blood, as when they announced the birth or marriage of a king. No matter how dark the sky or thick the atmosphere through which their pulsations throb, high, airy, distant, their harmonies are daily wafted down amid the jarring discords of the street to cheer and quicken the heart with thought of a better sphere. So does this voice out of the cloud, heard by the disciples on "a high mountain apart," which issued not from a human

source, but from the "excellent glory" of Heaven, teach us of God's unspeakable Gift and quicken us with its supernal sweetness.

"This is my beloved Son in whom I am well pleased." This certification of the character and credentials of Christ is an authoritative message. Let him that hath ears, hear and heed. It is an imperative call, coming from One who has the right to command. How shall we escape, if we turn away from Him who speaketh from Heaven? To reject this call is to reject life, The gift of God is Eternal Life, and this life is found alone in Christ. Hear ye HIM!

But this celestial call is one of consolation. It comes from Him who is the center and source of peace. In the world, our Lord says, we shall have tribulation. In Him we have peace. Earth is full of care. It was not made to give us abiding rest. Its atmosphere is full of sighs. Science tells us that the bulk of nature's voices are pitched on the minor key. The winds sob, the waves moan and the voice of many a beast and bird have the tone of complaint and unrest. But this is a voice of peace.

Moreover, there is continuing and unwasting sweetness in this voice from the upper realm. The story and the glory of God's grace continue through the ages heard above earth's riot, more heavenly and jubilant than Antwerp's ancient chime. It is the "Old, old story" which is forever new. When all other earthly voices die away upon the ear, this will

abide in undecaying purity and power, for it is the voice of the King Eternal, the same yesterday, to-day and forever.

These and many other thoughts suggested by the phrase quoted might be dwelt upon at length. There is one practical lesson, however, which winners of souls may well heed. The manner in which we present Christ to men has much to do with our success. The tone in which we say "Behold the Lamb of God who taketh away the sin of the world;" the method of approach to the indifferent or hardened hearer; the attitude we take in meeting the inquiring, the despairing or the shrinking soul, will win or alienate as we follow, or as we forget, the example given in this voice from the excellent glory. The teacher or preacher who would persuade men, must speak the truth in love, cultivating at once a tender compassion for sinning souls lying under the thrall of Satan and a loyal, loving sympathy with Jesus, to whose almighty grace it is our glad employ to bring them. John Newton wrote this text in large characters on his study walls at Olney: "Remember that thou wast a bondman in the land of Egypt, and the Lord thy God redeemed thee." Gentleness is often power in repose. It is the beauty which should ever be wedded to strength. It is "the scented flame of an alabaster lamp, yielding both light, warmth and fragrance. It is the tenderness of feeling, the glow of love; it is promptitude of sympathy, everything in-

cluded in that matchless grace, the gentleness of Christ."

There is, indeed, a time for martial virtues and for valiant words. There is a stormy eloquence befitting stormy times, that reminds one of the hurricane which nothing can divert or control. Demosthenes took his audiences by storm. His arguments and appeals marched forward like invincible squadrons, crushing everything in their way—violent and vengeful, coercive and peremptory. There are those who uniformly adopt a style of speech that is minatory and defiant, autocratic and triumphant. Their only aim seems to be to demolish their opponents. Their model is Phocion, whose power of argument was that of a falling ax, which flew swift, sure and with relentless energy. One dreads to fall under their merciless logic, feeling, as Whately says the Romans did, who would often hold out in a hopeless siege a longer time because they dreaded the humiliation of passing under the yoke. Personally, these imperious speakers may be the most genial of men. Their austere, rigorous and Draconian style of argument is only a rhetorical dress. They disclaim the slightest ruffle of personal resentment toward their antagonist. They never dream that the habit of their mind has affected their style of composition, and that, in turn, has made their voice sterner, more dictatorial, and sometimes objugatory. It does not come from "the excellent glory." I heard one of these preachers who

presented the usual arguments for future punishment, ending each division of the discourse in a tone of triumphant satisfaction. His arguments were cogent and conclusive, but his tone inspired disgust, and so disbelief. He imitated Æschylus, who cried: "Blood for blood and blow for blow!" The power of gentleness was wholly unrecognized in his rhetoric, logic and vocal delivery. How can we preach on such an appalling theme otherwise than in tears? "Of whom I now tell you, weeping"—was Paul's expression of sympathy. A parent that chides or corrects his child in a cold, unfeeling manner, with no pity in his eye, no tremor in voice or hand, hardens him. The child himself is defenceless and weak. He submits outwardly but nurses rebellion within. A single tear would have melted the icy obstinacy and brought the cringing culprit to his knees in sorrowing repentance. O for that insight of love, to which all hearts capitulate! Pre-eminently does the public speaker need it. It helps him in the composition of his discourse. It enriches his vocabulary with those conciliatory utterances which disarm opposition, and makes his most unpremediated speech like ointment poured forth. By not a whit does he need to lower the stringent and compulsory nature of truth, but his phrases are so formed and adjusted that he conquers by new modes of assault. Quibbling, sophistry, evasion, cant, subterfuge in his opponent, are met, not by sarcasm, which only exasperates, or by scorn, but

by a quietude of manner which veils, oftentimes a tremendous amount of reserved strength, by a sincere candid spirit of concession, which often half-persuades the objector to yield all, and by a frank, ingenuous manliness that challenges fairness in an antagonist.

There are nameless and numberless arts of persuasion that lurk in language, in facial expression and in gesture itself, which no winner of souls can afford to despise. Nearly thirty years of preaching, and many years of public and private teaching, only have impressed me with my own poverty in the resources of persuasion. The drift away from the sanctuary in many communities is a fact to be interpreted in the light of this question of persuasive speech. When shall we learn that the "gentleness" of God makes one great? Its conquering power is yet to be learned. Without omitting the preceptive and assertive—the dogmatic style, if you please—may we not gain reluctant ears oftener by the interrogative form of appeal? Christ often accomplished more by indirections than by direct assault. He was a master of persuasive speech. He did not confine himself to declarative forms, but continually made the hearer a judge in his own case. "What do you think of this? What would you say of that? Isn't it thus and so?" Without a parable he spake not unto them. He knew how to awaken curiosity. He disarmed opposition by the tone of his voice which

was like ointment poured forth, and by the phrases used. His thoughts were "apples of gold," while his speech was like "baskets of silver." Men wondered at the gracious words that proceeded out of his lips.

"Do you write for the Ear as well as for the Eye?" a student once asked me. "Certainly," was the answer, "it is the charm of written composition to express oneself so naturally in structure and in tone that a blind person listening would not suspect the presence of a manuscript. If one writes with an audience of living souls before his thought, his sentences will not be long and involved. They will be colloquial and euphonious, easy to read and easy to remember. This alluring subject will, however, lead us too far from the central thought that underlies this analysis of vocal delivery and written speech, namely Heart Culture. As I have said in my Drill-Book in Vocal Culture, "Art can give us rules, but the fervor, solemnity and power that move the conscience and the will, must be the natural and not the assumed expression of the man."

There is no teacher like the Holy Spirit. He inspires not only spiritual but real rhetorical power. With his annointing oil on our lips and the salt of his grace in our speech, we shall speak as from the excellent glory. The weary will be cheered, the wanderer restored, the caviller silenced and the hungry soul will be fed. Daniel Webster's voice was called a trumpet, but Channing's was a harp of matchless

sweetness. A skeptic once complained to Dr. Channing of the severity of Christ's denunciation of the Pharisees. The man of God read the passage in tones so calm, solemn and sympathetic that the disbeliever exclaimed: "If He spoke that way, my objection is withdrawn." The trumpet has its place. So has the harp. Strength and beauty are in the sanctuary, and they both alike adorn a symmetrical life. Self-mastery is indispensible to the mastery of others. In "the very torrent and tempest" of eloquence, there is, as Shakespeare suggests, "a temperance that may give it smoothness." The calmness of suppressed emotion is mightier than the frantic expressions of uncontrolled passion. Mark Antony, stifling his sorrow, concealing his grief, begged the Romans to bear with him till his heart, coffined with Cæsar, should come back to him. Thus the imagination is called into play and the smothered feeling really gains in intensity.

Genuine sympathy and kindness of heart will be revealed in written and spoken words. Theophilus Trinal says of winsome words:

> "Love in the writing peeps and hides
> Like stars in twilight air."

Love sweetens speech as mellow chimes and balsamic odors fill the encircling air with sweetness. Thus heart and voice, pen and tongue, together create a power persuasive and masterful. "Kindness is a language which the dumb can speak, and which

the deaf can understand." Men cannot be scolded into the love of truth, or dragooned into its service. As Maclaren says: "Gentleness is mightiest. We best adorn the doctrine of God our Saviour when we go among men with the light caught in the inner sanctuary still irradiating our faces, and our hands full of blessings. We are to be soldier-priests, strong and gentle, like the ideal of those knights of old who were both, and who bore the cross on shield, helmet and sword-hilt."

Such a bearing the true philosophy of persuasion teaches us to cultivate. It is rational, for "The most profound conceptions of truth," says Professor Phelps, "tend always to a state of repose. The interest they excite is the interest of equalized sensibilities. In such a state of Christian culture there is a remote resemblance to the serenity of the mind of God. Well do painters represent Christ as gesturing with the open palm, or with the monitory finger pointing skyward. Who believes that He ever pounded the desk or stamped His foot in Divine anger, or rivaled the bulls of Bashan in His intonations? Do we not think rather of His low and solemn tones, His sitting posture, His stooping form, His still or tremulous hand and His melting eye." The more we are with Christ the more shall we gain this soul-winning power; then will men see that we have been with Jesus and have learned of Him.

PSYCHOLOGICAL STUDIES,

THEIR SCOPE AND UTILITY.

Delivered at the opening of a course of fortnightly lectures, under the direction of the ACADEMY OF ANTHROPOLOGY, at Cooper Union, New York City, October 9th, 1888.

An enthusiastic German philosopher has said, "He touches heaven who lays his hand upon a human frame." True, for it is fearfully and wonderfully made. But he draws very near to God who wisely lays a guiding hand upon a human soul; who can detect, evoke, control and use aright the powers of its endless life!

It will be my aim briefly to define the significance and use of that branch of our studies which the Academy has properly placed first in its curriculum. Psychology, the science of the human soul, is a better term than Metaphysics, or Mental Philosophy, which refers rather to the cognitive, intellectual functions. Though the term Psychology is not three hundred years old, the study is not new. Popularly speaking, the soul includes both the principle of life and of intelligence. In stricter language the soul is the sentient and the spirit is the

higher, rational principle. A pure spirit is one that never was incorporate; but we are souls and have bodies. We are, however, more interested in the phenomena of consciousness than in its essence; more in empirical or experimental Psychology than in rational Psychology, which involves one in endless philosophical speculations.

Anthropology treats of man, body and soul, that is, of Somatology—his structure and functions, Anatomy and Physiolgy—and Psychology. We study the body through the senses, but the mind, as manifested by consciousness.

Psychology is well called the highest court, for it defines conscience and duty. It thus links itself to Ethics, Law, Theology and Political Economy. So far as it gives canons of taste it is related to Æsthetics. Yet Logic has been called its lawgiver and Metaphysics its voucher, for the one prescribes the rules of right thinking, and the other presents the primitive grounds of being itself. The frivolous subtleties of schoolmen brought Metaphysics into contempt, and even now one is ready to admit that the blacksmith of Glamis was not far out of the way in saying that a discussion may be called metaphysical where the listeners "disna ken what he that's speakin' means, and he that's speakin' disna ken what he means himsel'."

Psychology, like all other inductive sciences of nature, is a science of observation, persistent, con-

tinuous and comprehensive. Professor Porter, in his "Elements of Intellectual Science," shows the great value of its study as related to self-knowledge, moral discipline and success in life. The education of the sensibilities, the art of conversation, the pedagogic and homiletic science, sociology, jurisprudence, theology and medicine are all illuminated by Psychology.

This is a scientific age, but as Dr. R. D. Hitchcock says, "Science is inordinately physical instead of metaphysical. It staggers under its burden of facts, and is frequently mistaking its own unproven hypotheses for laws." Nor is it strange that physical science usurps the place of the spiritual when we remember the domination of the senses over the noble powers of man; when we also remember the pecuniary rewards which are had in turning thought and labor to material things, and the temptation to subordinate science to popular opinion, or to make merchandise of scientific opinions. Professor Louis Agassiz once said that he was "never a quarter of a dollar ahead in the world, and never expected to be." When offered a large sum to go to a distance and lecture he replied, "I cannot afford to waste my time in making money." He was always looking through mere things up to ideas, up to the Maker of all. He said that "the ignoring of God will end in making natural science itself sterile."

Over the doors of the Academy where Plato taught

were placed the words, "Let no one unacquainted with geometry enter here." It is not mathematical inaptitude that bars the way to the lecture room or laboratory to-day, but it is that frigid and sterilizing materialism which dwarfs the soul by its deceptive and degrading conceptions, and drowns its outcry with a chilling creed.

"A scientist who lives without God in the world," said the illustrious scholar just quoted, "seems to me to be worse off than ordinary men. I never make preparations for penetrating into some small province of Nature hitherto undiscovered without breathing a prayer to the Being who hides His secrets from me only to allure me graciously on to the unfolding of them."

We must also discriminate between science and sciolism, between the substantial and the specious and pretentious. "A little knowledge is a dangerous thing" if it breeds conceit. Too many self-satisfied explorers write their "Ne plus ultra" over the little boundaries of their own knowledge, as did Spain at the gates of Hercules. They refuse to see "more beyond." A truly scientific spirit is calm, candid, cautious, exacting and yet hospitable to all truth. It is as free from indocility and perverseness as it is from credulity, remembering that now we know in part, and prophesy in part, and that to-day is but the cradle of to-morrow.

Having thus shown some reasons why physical

science has often usurped the place of higher studies, we may briefly note the ground of their unity, and thus show that, so far from antagonizing each other, they are mutually helpful. This unity is a unity of origin, method and aim. Matter and mind come from one origin. The spiritual ground of existence is an undeniable fact. It is needless to argue this here. In God all things consist, stand together. "Matter, pressed to the utmost, declares itself to be force. Force, pressed to the utmost, declares itself to be Thought and Will. Thought and Will, pressed to the utmost, declare that they are the breath of the Spirit of God. The Alpha and Omega of human experience is Spirit. At the end of all our science, at the summit of all our philosophy we stand to-day where, in the dim antiquity of an almost prehistoric age, one stood in the Spirit of the Lord and said, "In the beginning God created the heaven and the earth."

Science measures thermal changes to the eighty-eight one hundredth of a degree, and the size of atoms to the hundred thousandth of an inch; but it is well said, "On the other side of the atoms is God. Beyond the last conceivable subdivision of matter is the One substance, the continuous, indivisible, omnipotent, spiritual ground of existence, the Living God." Spectroscope, microscope, galvanoscope, delicate as are their adjustments, are insufficient interpreters of the mysteries of being. We must,

with the "Microcosm of Lotze," build on the postulate of a spiritual cause.

Again, there is a unity in method. The plan of the Creator of physical and psychic forces is a constructive, orderly and progressive plan. There is continuity in the evolution of life, whether in the flowers of the field or in the brain of the botanist that studies them. Sensible and supersensible processes in each are under law, are parts of a definite system, orderly, rational and open to intelligent eyes. The growth of a plant, the formation of a crystal, or the grander growth of memory, will and conscience are alike regular, methodic, progressive, so that normal and abnormal phenomena may be detected and classified.

Nature is not chaos but cosmos. There is precision, harmony and balance in her work. Tyndall says that not a particle of vapor is lifted without being paid for in solar heat. Gain involves its equivalent expenditure, everywhere, every time. Nothing is gratuitous, haphazard. The great lesson of Science to us is, says Emerson, "That the history of nature, from first to last, is incessant advance from less to more, from rude to finer organization; the globe of matter thus conspiring with the principle of undying hope in man."

This is the third feature of unity, that of aim and purpose. The science of things and of thoughts, of matter and of mind, of monads and of men, proceeds

from one Teacher, and they have one end. The material is the silent teacher of the spiritual. Nature is not only the servant of our coarser needs, but the minister to our higher wants. "Giving us bread to eat, water to drink, raiment to put on, air to breathe and soil to stand on and build on, nature might have been clothed with homely, russet garments, girded for toil; but as the priestess of heaven, ministering in the holy place, appealing to the higher faculties of man, she is clothed like Aaron, with temple vestments, and Solomon with all his glory, is not arrayed like her. Her forms are evanescent; but her ministry is everlasting. Her grass withereth, and her flower fadeth; but the word of the Lord that speaketh through her, endureth for ever." It is spiritual law in the natural world, as Hugh Macmillan shows in "The Ministry of Nature."

Professor Drummond has unwittingly inverted the order in the title of his work. It is quite true that the supernatural is not unnatural, but it is also true that for spiritual ends this material creation stands. Nature should not be regarded as unspiritual, but as a parable of moral truth. There is a law of correspondencies between physical and psychic facts, higher and nobler than Swedenborg ever dreamed of, or Bishop Butler ever outlined. Men of keen spiritual tastes, like Agassiz, feel this quickening truth. He once remarked, "My ex-

perience in prolonged scientific investigations convinces me that a belief in God, a God who is behind and within the chaos of ungeneralized facts, beyond the present vanishing points of human knowledge, adds a wonderful stimulus to the man who attempts to penetrate into the regions of the unknown." Speaking of him, Whipple says, "His soul flamed out in every expression of his magnificent nature, conveying the impression of intense, superabundant *life*. He told me that he had never known a dull hour in his whole life. To be ten minutes in his company was to obtain the strongest argument for the immortality of the soul."

"Recent discoveries in Greek architecture," says Professor Phelps, "are said to prove that the lines of certain fluted columns, always till now regarded parallel and vertical, are really convergent, and would meet if continued upward." This illustrates the unity of the aspirations of great souls among themselves, and the converging approach of all such lives to the supreme and unifying center of all truth above. It is in God our Saviour, by whom the worlds were made, that the partial views we hold, the dim ideals sought, all blend and are realized in symmetrical unity. He is the Truth. To see Him as He is, is to focus in one center the scattered gleams of truth we elsewhere gain.

Having thus glanced at the method and spirit of our studies let us look at their practical value in a

few particulars. The education of the sensibilities has been alluded to. Human emotion is a factor of immense power. It is a subordinate but invaluable ally in the art of persuasion. To understand the laws of influence and to be able to utilize them in the mastery of men is an exhilerating possession. The power of Circe with her magic wand is surpassed by that wondrous witchery which he wields who can arouse, restrain and guide emotion at will, causing another soul to capitulate at his pleasure, all unconscious of the thrall thrown over it. This is illustrated in public speech. It is well to have our feet on facts and to handle arguments like arrows; but after all, persuasion does not come through intellectual processes merely or mainly. There is what Professor Phelps calls "a conglomerate of thought and feeling, spiritual power and animal magnetism." There is a mutual sympathy generated between the true orator and his audience. "He gives back to them in rain what he receives in mist," to use the figure of Gladstone. It is the province of Psychology to teach one to discriminate, identify and use these psychic forces that are developed in the play of human sensibilities. Otherwise there will be a waste. The chemist gives me a pinch of powder and a few drops of liquid. I fling the fluid to the floor and blow the feathery dust from my fingers. They are gone. But wed them and I have an electric battery. Thought travels over the

wire. So he who can unite and control these delicate, elusive yet mighty elements of spiritual life is a master of men. We hang crystal tubes in our hall ways. They answer to every breath of heat and cold. Stone and iron respond to the sunshine. The rain drop on the window pane records itself in the flame of the evening lamp. But with more phenomenal delicacy do human sensibilities reveal themselves by furtive movements, unintended but irrepressive symbols which the skilled diagnostician of mind reads as readily as does the physician in the work of physical diagnosis. The color of the eye, the curvature of a vein, the fibriliary tremor of a muscle, the voice, breath, odor and a score of other unconscious revelations teach the medical man what he might not learn by direct questioning of his patient. So with the subtle influences of the soul.* Few, indeed, appreciate the affluent resources of power found in our emotional life. It is one of the practical advantages of this study that one comes to know the contents of his own being and the laws which control the commerce which his soul holds with others. We speak of magnetic men. Why? Because a magnet draws and holds. It has something to give. The steel is made to receive. As with metals so with men. There is a hidden potentiality, and it rests in part upon a physiological basis. He who expects to put forth power must have a pleni-

* *Vide* "The Windows of Character."

tude of power at hand. This is not muscular energy or physical health merely. An ox is healthy, but he is as stolid as he is strong, for certain functions have been arrested. A man may be stalwart and sinewy, yet sodden and passionless, with little fiery or eruptive life. Like the Duchess of Marlborough, he may have been born before nerves were invented. He is a metal man, but not a man of mettle! How can he master men of vehement, palpitating sensibilities? I have elsewhere referred to the vital unity between intellectual and sexual energy, and how, as Mandsley illustrates, the finest poetic and artistic emotion, as well as the essence of religion and morality stand related to the development and control of the reproductive system. These lower, animal sensibilities are to be treated something as were Abraham's domestics, "circumcised and made servants." The chisel of Praxiteles, the counsels of Pericles, the eloquence of Demosthenes are truly seen and appreciated when viewed in their relation to Phryne, Aspasia and Lais.*

There is also in the man of magnetic sensibilities the powers of elimination and of restraint. He may find himself in contact with a responsive soul, and can exhale the fullness of that "atmosphere" which is peculiarly his own. The conjunction of an affluent, distributive nature with a sensitive, receptive

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* *Homiletic Monthly*, June, 1884, "Pulpit Magnetism."

one produces marvelous effects. The efflux of soul is partly automatic and partly volitional. It is easy to feel, but hard to analyze it; a radiation as real as heat from fire, and which constitutes the individual's "air." It is partly a gift, but quite as much a growth. It is a polarization that touches certain souls and draws them like doves to their windows.

Conversation is a field for the play of these psychic forces. There are men who not only entrance their hearers when they teach in the lecture room, sing on the stage or preach in the pulpit, but in the street and parlor hook others to them as with claws of steel. Time is annihilated, engagements forgotten, and discomfort, even, swallowed up by the charm of their discourse. Alcibiades was held as by a mesmeric spell at the feet of Socrates. The warrior bowed to the philosopher. "When I listen to him my heart beats and tears come to my eyes. I am more roused by far than are the revelers in the rites of Cybele. I see that it is so with every one else. Therefore, stopping my ears, as if to shut out the voice of Sirens, I tear myself away by force lest I grow old, sitting by his side." So did the fascination of Michael Angelo's speech hold as with fetters D'Ollanda, sent to Rome by the King of Portugal, "He awakened such a feeling of faithful love in me, that if I met him in the papal palace or in the street, the stars would often come out in the sky before I let him go again." The attraction is mutual.

Friendship is mental gravitation, and not to be resisted any more than the earth's. It comes of necessity rather than of choice. The fountain before the Lateran in Rome at Rienzi's election as tribune gushed with both red wine and white. So the commanding and the consenting soul are one in this outflow of spiritual wealth, the real wine of life.

The rhetorical, homiletic and histrionic elements of this personal power are manifest and manifold. The tongue of the talker is reinforced by facial expression, and the entire *sermo corporis* which cannot be located in any member, but speaks with swift and certain emphasis, creating, in fact, a man's atmosphere which envelops him, and which is all the more significant because an inexpressible, inseparable and unconscious efflux. The philosophy of gentleness as a power, and the phonetic as well as rhetorical features of persuasion could easily be here developed into a chapter,* but the aim of this lecture is but to suggest thought, and not to elaborate it.

Psychology and pedagogy are vitally related. The eager and inquisitive French mind has been quick to utilize in this line certain psychic experiments, as in the training of dullards, for example. Seguin, at Paris, since his death his widow in this city, and the educators at Elmira Reformatory, have reported marvelous results in physical and mental

Homiletic Monthly, February 1882. "Persuasive Speech."

renovation. The speech, gait and facial expression are improved immediately. But still more wonderful are the moral transformations reported by Dr. Liebault at Nancy, among the poorest and most depraved whom he and his colleagues have treated by psychological experiments that cannot here be described in detail. Victims of drink, opium and tobacco are inspired with a permanent disgust of the vices which have enslaved them. Abandoned females, obscene in speech, incorrigible in evil ways, have become virtuous and respected. Some of them have taken and held for years positions of trust. The transactions of the French Association for the Advancement of Science, held at Nancy in 1886, and the reports of Professors Bérillion and Augustin Voisin, at the Salpetrière and elsewhere, suggest the immense power for good in psycho-therapeutics.

The relations of these studies to medicine, to surgery, to the care of the sick and insane, to many questions in civil and criminal law have been considered in my papers presented to this Academy, and to the Medico Legal Society. The field of heredity, of sociology, indeed of all remedial science, is cleared up by a knowledge of Psychology. Here we have, às Dr. Beard observed, a key to half the world's delusions and the scientific basis of those occult phenom ena that have ever been at once the wonder, the terror, and the joy of men. Religious truths which familiarity has monotonized become august and au-

thoritative, and invested with reality and significance. Theological questions like the study of miracles, demoniacal possessions, the biblical trance, death and immortality are also illuminated by the light which these investigations shed on them. As physiological chemistry has revolutionized old systems of pathology, as modern astronomy has rewritten solar physics, may we not believe that the practical study of the principles of Psychological science, now so general throughout the thinking world, will bring to light newer and truer conceptions of man's nature and needs, and introduce a philosophy of human life more intelligent, comprehensive, humane and christian than has yet prevailed? James Martineau voiced the heart-cry of an unnumbered multitude when he said "The only true remedy for the dark infidelity and cold materialism that threaten the utter destruction of the religious life in a large portion of the people is to give them a living faith, true to the conscience, true to the intel lect, TRUE TO THE REALIZED SCIENCE OF THE DAY.' Towards the fulfillment of this hope, the studies of this Academy, the course of free fortnightly lectures begun with this, our papers, debates and publications point. We have twenty-five hundred years of philosophy behind us, but we remember that the soul of man is a serial publication. Human life appears in parts, chapters, paragraphs, even. The world's drama is coming to its close. "Time's noblest off-

spring is its *last!*" The present is full of stimulating possibilities, and the future, of inspiring promise. We are, as was said at the outset, to be observant, cautious, candid, thorough, never mistaking unproven hypotheses for laws, sciolism for science, the specious for the substantial; but avoid alike the extreme of credulity on the one hand, and that of indocility and self conceit on the other. Moreover, we are not a guild of Agnostics, but have, from the start, recognized the spiritual ground of existence; the unity of origin, method and aim in all the sensible and supersensible processes of nature. Behind matter is power; behind power, will; behind will is Spirit, personal, indivisible, ubiquitous, eternal! As the lines of fluted columns in Greek sculpture meet, and as the tunneling lines of Alpine engineers converge to one point, so find we there in God, the unifying center of truth, the summit of all our philosophy and the realization of all our hopes.

MENTAL AUTOMATISM.

This paper received the Academy Prize of fifty dollars, and was read before the International Congress, called by the Academy of Anthropology, at Columbia College, New York City, June 1888.

It will be the aim of this paper to illustrate certain forms of unconscious mental action, and to show the scientific and ethical value of this department of Anthropological study.

The chief fact in human existence is the Involuntary Life, according to an eminent psychologist. "Consciousness appears to be but a helpless spectator of a minute fraction of a huge amount of automatic brain-work." The latter is compared by Francis Galton to the ocean with its millions of waves; the former is a single line of breaking surf along the shore. "The unconscious operations of the mind frequently far transcend the conscious ones in intellectual importance. I begin to think that my best brain-work is wholly independent of consciousness."

It would be irrelevant to enter here upon the metaphysical and scientific speculations on the origin

and essence of thought and the unity of physical and psychic action, "the conflict literature" as Zöchler terms it, for physicists and philosophers alike confess their inability to solve these problems. Shadworth Hodgson thinks that it is time that Science was heard, for "The present position of Philosophy is not only a scandal to the intellectual world, but fraught with danger to the best interests of humanity." But Professor Huxley candidly admits that the advance of Science is slow and circuitous, "That of a tacking ship, the resultant of divergencies from the straight course."[1] Says another, "We must recognize our limitations with reverent agnosticism, the folly and futility of further investigations. In the vast land of unconsciousness, intellectual activity becomes manifold, and each of the many sides of our nature, untrammelled by the restraints of conscious volition, carries on a ceaseless activity, the results of which we sometimes receive and recognize in consciousness."[2]

Though by-gone mental experiences and acquisitions are hourly fading into forgetfulness, they are imperishable. "Physical processes are complete in themselves and would go on just as they do, if consciousness were not at all implicated. . . . The problem of the connection of the body and soul is as insoluble in its modern form as it was in the prescientific ages."[3] With this declaration of Tyndall we may rest the case. It would be a waste of

time to discuss the materialism of early philosophers, or the guarded materialism of Professor Bain, his "double-faced unity of matter and spirit;" or "the convex and concave sides of one indentical curve," as Lewes suggests, for either must be the property of the other, or else a third something exists. We simply know that "Soul is a conscious unity which materialism has failed to comprehend, and this is a firmer fact than even the existence of the material universe. The established unity of physical and psychic forces, however, as now understood, is in advance of the dualism of Liebnitz and Descartes." The soul needs an incarnation in its pupilage and the body needs a soul for its own perfection. The harmony is not one of mere "mechanical adjustment, but of two growths from the same spiritual and divine source. The spirit has not been imprisoned in matter, as a woman with her child was walled in by the masons of Magdeburg, who built up around her the walls of the city, but our souls have air and life from the great world without." (4)

Terms Defined.—At the outset we are to distinguish between natural and educated automatism, instinct and habit. The latter is predicated of that unconscious cerebration which is the product of repetitious thought and effort in certain lines and grooves. Prof. Wundte has shown (5) by labratory experiments that there is a measurable interval between sensory nerve impressions on the brain, a

purely physical process, and the mental action through the attention and will. The processes are not identical, synchronous or co-extensive. Delicate tests show this interval to be from one-tenth to a quarter of a second. This makes that personal equation which is so important to ascertain in every individual in order to eliminate error. Astronomers understand this primary, congenital condition. An observer, for example, is to note the instant that a star touches the wire stretched across the field of a telescope. He counts the beats of the clock and notes the beat at which the transit occurs. A number of observers are tested, and a variation of half a second, according to W. M. Williams, is noticed between the records made, which represents the variation in auditory perception and alertness of volition, hence the length of time required for a sensory impression to reach the brain and for the response to be transmitted outward to the muscles. Not only do individuals differ among themselves, according to age, sex, temperament, and in observatories are rated and registered accordingly, but the personal equation of each observer requires periodic revision as much as do watches and chronometers.

Just here an ethical fact asserts its presence, the determining power of the will, as related to spontaneous and automatic activity. While the will may not originate mental activity, it may select, utilize and improve, and thus dominate, automatic tend-

encies. Intensity of attention is in inverse ratio to extensity. Here is a hint at mental discipline and moral growth, which is of highest importance.

2. Another preliminary consideration is this, we are to differentiate ordinary, normal action from aberrant, pathological conditions, or those forms of the Involuntary Life which are artificially induced for scientific study, as hypnosis, and sleep-walking.

3. We may admit with Spier, that there is an Ante-Chamber of consciousness, "a general environment of nervous activity, where the recognition of the *Ego* is partial and indistinct. Ambulatory thinkers illustrate this half-conscious condition, as did Stuart Mill, who thought out a good part of his "System of Logic," during his daily walks between Kensington and the India House. So deeply absorbed was he that he did not recognize the friends he saw, yet he avoided every vehicle and obstruction, in obedience to the lower centers which controlled muscular motion, while the higher centers of the nervous mechanism were busy with ideation.

A reporter of night debates informed an acquaintance of mine that he had repeatedly fallen asleep through sheer fatigue, yet, rousing himself, would find that he had continued to note down correctly the speaker's words. He added that this was not an uncommon experience among his associate reporters in the House of Commons.

In this connection we do well to keep in mind the

distinction between, yet the unity of, the Sympathetic system, which has control of our organic life, and the Cerebro-Spinal, which rules our animal life. Carpenter says that the motor endowments of the former are chiefly dependent upon its connection with the latter, through the nerve fibres that enter the sympathetic plexuses; also that in disease the sensory endowments possessed by parts supplied by the Sympathetic system, unrecognized in health, cause a radiation in impulses and morbid sympathies between remote organs. There is also an exaltation of the autonomy of the spinal cord, simultaneously with neural suspension of cerebral influence. There is an increase of what Brown Sequard calls "dynamogenic processes," a force producing or force transforming action in one group of nerve cells, and an inhibition of another sphere or group, through Expectation and Attention.

Striking illustrations of this occur in the study of psychic contagion, where audiences are enraptured by song or speech, "their breath sucked out by the spongy eloquence of some cunning orator," as Dr. O. W. Holmes pictured Helen Darley, till they fairly heave and gasp for air. Madame de Sèvigne's account of Bourdaloue, Prof. Frazer's description of Chalmers, and Dr. Croly's portraiture of Pitt, record the same results following the unconscious tension to which attention subjects one part, and the inhibition of another part of the nervous mechanism.

We owe much to Lotze, Fechner and Helmholtz, but even more to Prof. Wundt for the establishment of Psychological Laboratories. The first was begun in 1879, at Leipsic. The University furnished rooms, apparatus and a salaried demonstrator. Students from America, Russia and other distant countries are working in chapters or groups. One in each section acts as registrar of data. Psychometry, the measurement of mental processes, is the leading study, related as it is to molecular changes in the brain and variations in personal consciousness. Besides this, elaborate and conscientious methods are used to determine the kinship of the psychic state and the physical stimulus. This branch is called Psycho-physics. It is founded on the constant and indivisible interactions of the forces of these distinct yet inseparable spheres. It assumes that perception, comparison, memory, consciousness are as real and potential in their realm, as heat and electricity are in their own. The use of the word "Laboratory" in this connection is a declaration of this fact. The old definition, "a place for chemical investigations," must go. Mind is more than matter. Conscience and will are more than quiverings of brain-jelly, and the intercourse of souls is a grander study than that of electricity. With Tennyson we say—

> "Star to star vibrates light. Can soul to soul
> Strike through a finer element than its own?"

It is time to pass to another field of illustrations of the Unconscious Life. We have glanced at the primitive, instinctive, spontaneous automatism of mind, and also at the secondary or educated automatism which is the result of habit and training. We now consider abnormal mental automatism.

Artificial Automatism.—The supreme expression of the Involuntary Life is the Trance. This comprehensive term covers ten or fifteen varieties, but the hypnotic form is the only one from which illustrations will now be drawn. Artificial sleep-walking has been termed "artificial insanity," and properly considered as a study in Mental Pathology. Its definition, methods of induction and control have been elsewhere described and need not here be repeated. (6) From one hundred and forty different cases, some original data have been obtained, and the verification of many observations and deductions of other experimenters.

Medical and Humane Aspects.—My attention was directed to various forms of artificial unconsciousness, soon after beginning to read Medicine, in 1852. A follower of Braid, who lectured extensively in America, offered to teach me the art of inducing the Trance state. Frequent voyages to foreign countries the last ten years have brought me into contact with sufferers from sea-sickness. Believing this to be, primarily, a cerebral disturbance and not a gastric, it occurred to me that hypnosis would be an

effective therapeutic agent in this distressing, and sometimes dangerous, ailment. I say dangerous, for, if atheromatous changes have begun to take place in the arteries, retching may cause death by rupture of cerebral arterioles. Three cases of personal friends are recalled, one on shipboard, where fatal results have followed emesis. The ineffectiveness of bromides and intoxicants, and the after-effects of these and other forms of medication, made the trial of the new remedy interesting. The notes made of numerous cases, beginning with two clergymen—who gratefully acknowledged relief—were never intended for the public. Dr. George M. Beard, however, insisted on their publication, being, as he said, the first contribution of the kind to the literature of Trance.[7]

In the cases cited, unconsciousness was not always secured at the first trial, though relief was immediate, with some degree of somnolence in nearly every instance. Others seemed insensible as if chloroformed, so that knife or needle was unheeded. One Parisian, in middle life, asked bewildered, on waking, "What has happened to me?" Another, a Welsh quarryman, with whom no words were spoken, neither understanding the other's tongue, almost immediately was entranced, and his heavy weight, thirteen stone, became a crushing load on the operator, seated as I was, behind him. Another, after four days anguish, exclaimed, within a moment after the first

touch, "What a heaven to be relieved of pain!" In a fourth patient, the ventral and cerebral disturbance was so soon arrested that concealed nitrite of amyl or some other depressant was suspected, and the excited query was put by another, "What was on your hand?"

Further details appear in the Transactions of the Academy of Sciences. Results, or deductions, are what we are looking for. Here, as in law, "*Videndum non a quo, sed ad quid.*"

1. The unconsciousness of Trance in many cases relieves seasickness by restoring nervous equilibrium, and in surgery is sometimes an adequate substitute for ether. Not every one responds. Not every one is able to awaken that faith and expectancy, out of which the phenomena are ordinarily evolved. This persuasion cometh not to every yielding soul, still less to the reluctant, incredulous. Failures occur alike with three classes: Those who are so anxious to test the reality of this automatic, involuntary condition, that their own alertness, vigilance and introspection defeat their aim; those who are of an opposite temper, volatile, voluable and frivolous, lacking the power to fix their attention on anything; and the dogged, despairing, querulous sort, who seem to "enjoy poor health," as they say. Failures, however, are not decisive. Sequestration and silence on the part of the patient, and patience

on the part of the experimenter, have secured success after a dozen failures.

2. Tranciform states, where the unconsciousness is partial, incomplete, usually afford proportionate relief. A multitude of facts might be cited.

3. The sense of subjugation when one finds himself in the hands of Neptune or the surgeon, is a helpful accessory to the operator, analogous to the yielding attitude of an animal under a tamer and trainer, or paralyzed by panic.

4. A vital factor of success is the feeling of certainty on the part of the experimenter. Fear is not more infectious than confidence. It is unintentionally revealed in the eye, the voice, the step, the touch. To its masterful influence the strongest, most intelligent wills capitulate. *Possunt quia posse videntur.*

As to this artificial unconsciousness as a substitute for the usual surgical anæsthetics little need be said. A New York physician who had used it, remarked, at the meeting referred to, "I can frankly admit the main facts contained in this most useful paper by Professor Thwing, not only relying on his acute and accurate process of observation, but on my own convictions after careful investigation of phenomena as remarkable as any he relates." The president of the Academy of Sciences spoke of seeing this same form of anæsthesia used in surgery, thirty years ago, in Paris. Still earlier, Dr. Esdaile, in India, performed amputations and the removal of tumors from two to

eighty pounds weight, with no other hypnotic, ether being then unknown. In the Maternity at Vienna this unconscious sleep is seen to be not only a lethal power in the pangs of labor, but a practical hæmostatic, as would be expected in the reduced tension of the vascular system when nerve centers are quieted. It once was a source of surprise and suspicion that tactile sensibility remained when pain was abolished. Now that Physiology shows them to be distinct, this ground of doubt and distrust is removed.

In this connection I have noticed not only the arrest of pain, but of the organic consequences of pain, through suggestion or otherwise. Prof. Delbœuf, of Liege, burned with a hot iron both arms of a patient, saying, before hand, that the wound on the on the right arm would never be felt. Removing the bandages the following day, only a scorch remained, while the left arm showed inflammation and a vesicular sore. Both applications of the iron were the the same. Pain, as an irritant retards healing. Its absence accelerates repair. Prof. Delbœuf argues that healing wounds by mental impression is a legitimate function of the surgeon when he discovers this susceptibility. This principle is a key to the healing of the wounds of African dervishes, and not a few faith cures. I have, with hundreds of other experimenters, produced real inflammation through hallucinatory impressions, as of the sting of the bee, and removed genuine pain by simple suggestion.

That most cautious alienist, Dr. D. Hack Tuke, of London, puts "psychical agents in the *Armamenta Medica* of every medical man." Dugald Stewart saw no reason why a physician should scruple to use them any more than electricity. Sir John Forbes, in the *British and Foreign Medical Review*, took the same ground, when he advised the use of inert substances at times, "for the satisfaction of the patient's mind," alone. The French Academy, a century ago, in rebuking Mesmer as a charlatan, enunciated the very idea now illustrated. "The power which man has over the imagination may now be reduced to an art and practiced methodically."

But so many other points are waiting notice that the medical and human aspects of this department of Anthropological study must be dismissed with the single remark, that ideation and sensation are vitally and vividly connected. In the sphere of special sense it is eminently true that they act surely and swiftly in concert, while "an automaton is substituted for the true volitional self, and the will is a slave of a dream or a suggestion." Darwin illustrated this by putting irritating snuff in the nostrils of several persons and inhibiting reflex action so that they could not sneeze.

Other Phenomena.—The lecturer on physiology at Westminster Hospital says that when he was hypnotized he seemed to exist in duplicate; his inner self alive to an external world, but fully determined

not to interfere with the acts of the outer self. This indisposition or inability to control volition increased until consciousness ceased. He then conversed in German, but did not recall his remarks afterward, though he did ejaculations in Italian, connected with readings in that tongue the day previous. These acts of his outer self seemed fatuous and irrational to his incapacitated inner self. When he tried to strike the operator, he had no more power to do so than the Lotus Eaters, "Deep asleep, yet all awake, weighted with heaviness." He put his fingers into what he knew was flame, unable to resist. Afferent impressions and efferent processes went on, yet so identified was he with the experimenter, and so obedient to his will, his own individuality was greatly obscured; indeed, he was hardly disenchanted the next day, although going to his University duties. The experience of a London surgeon and of an educated clergyman, added to the foregoing, are given by Dr. Tuke in his work on "Sleep-Walking." To him, to Prof. Victor Horsley, and Dr. J. Hughlings Jackson, of the National Hospital for Paralyzed and Epileptic, I am indebted for clinical opportunities at Bethlem Hospital, at Queen's Square and University College, London.

Heidenhain further illustrates this ideoplastic, automatic condition by experiments on his brother, whom he made remove, while asleep, his carefully cultivated and much valued whiskers. This bare-

faced outrage greatly angered him. The same experience is related by Dr. Esdaile, in India, when a devotee had removed a long finger-nail sacredly kept. The emotions show the genuineness of the experiment. I have offered a gold eagle to one, and a jeweled ring to another, in good faith, promising them ownership, if each would extend the hand or open the eyes, but each interpreted the very emphasis of invitation as a declaration of inability, as it really was.

Inadequate analogues of this disturbed and tyrannizing state of mental perception are furnished by the strange antics of the late Prof. Robert Hamilton, of Aberdeen, and of Gauss, the famous German mathematician, when carried away by some dominant idea. They acted like machines in their relations to what was outside of themselves. Other cases nearly as marked may be recalled by almost any one, which show enthrallment of the will in its guiding, purposeful energy. They are hardly indentical, however, with the duplex life shown by the true Trance, for in hypnosis, as Gurney says, the attention, so far from being withdrawn from what is automatically done, is concentrated with special activity on these acts in obedience to suggestion without. The action is reflex, so far as the certainty of response to stimulus is concerned, yet for all that, "a conscious reflex action." The psychic rather than the physical sense of the word "reflex" is employed.

Normally we focus thought on one aim, and yet yield to a score of subordinate perceptions that modify and make our action rational. Trance breaks this equilibrium. So does absent-mindedness. But in this, the mind works "with unusual force and individuality in its self-selected channels, and what its owner says or does in response to external influences is as little attended to by him as the influence itself. The other mind is working with marked absence of individuality in a channel elected by others, and what its owner says or does in response to external influence is that on which his attention is concentrated to the complete exclusion of every other thought."

Leaving abruptly this form of mono-ideism and the opposing views of theorists arguing from purely mental or physical outlooks, "the misty hights of purely abstract reasoning," passing over a wide field elsewhere studied [8] and so omitted here, I allude, in passing, to that which seems to me to encourage what psychologists till recently ridiculed.

THOUGHT TRANSFERENCE or telepathy is that supposed dynamic connection between one brain and another which enables the one to communicate with the other, independently of the recognized channels of sense. Volumes have been filled with the reported cases of spontaneous telepathy, where the agent or percipient was in danger, or otherwise disturbed, and volumes more ought to be filled with cases of

experimental thought-reading, which transcend, if they do not oppose hitherto known laws. Referring to this inter-communication, the late Prof. Carpenter, of London University, thirty years ago, frankly asked, "Would any man of science have a right to say it is impossible? Some of the writer's own experiences have led him to suspect that a power of intuitively perceiving what is passing in the mind of another, called thought-reading, may be extraordinarily exalted by the entire concentration of attention." Prof. Janet records fifteen completely successful cases of trance-induction at a distance;[9] the *Revue Scientifique* narrates the same success of Dr. Herecourt, a colleague of M. Richét. Without word or gesture he willed D., his subject, to sleep while in the midst of animated conversation with friends. Once he made D. sleep at 3 P. M., while in a remote locality, and being called away, forgot to break the spell till 5 P. M., though D. had, in a normal state, been asked to call at 4.30. In the evening D. said that at 3 P. M., a strange desire to sleep was felt, a habit never indulged in during the day. A servant found D. unconscious, who, in spite of efforts to rouse, remained so till 5 P. M. To exclude the possibility of collusion, on the common explanation of "Expectancy," or "Chance," disinterested parties varied the test. The results were the same. Dr. Beard's method of eliminating fraud was also tried. Dr. H. willed wakefulness, and verbally commanded

sleep and *vice versa.* The will, not the word, prevailed. In each case D. innocently told the doctor that he had failed.

The Tribune Medicale gives an account of more than one hundred trials of *sommeil a distance*, by Dr. Dusart, who, with varying tests, induced or arrested hysteroid conditions; prevented or allowed at will, miles away, the father of the patient to induce sleep, as he had learned to do after the physician had discontinued his visits. What is this "magical influence proceeding from intelligent willing" as Schopenhaur calls it, in his "World, Will and Idea?" What is the *nexus* between these identical processes of physic interaction? Is there a "potential unity of all similarly constructed minds?" That we cannot now tell what that latent unity is, if any, should not militate against the supposition of a wider selfhood than we ordinarily claim. This involves, as Gurney says, no disruption of individuality, while it does involve a pervading sense of association with another organization and a special mental sensitiveness, at times, as when shock of peril or approach of death concentrate will and attention.

My own experiments and those of other medical friends have been so successful that I heartily repeat the dictum of Dr. Carpenter on this point, published a generation ago, that we shall be wise "in maintaining a reserve of possibility" in reference to phenomena of this class, occult, but not incredible.

Truth is a sphere. We see segments, sections, fragments. We know in part. Philosophy asks, "What may we know?" but science, exact, exacting, dealing in frozen facts, asks "What *do* we know?" The opinions of the non-expert are often more under the control of the will than of the understanding. A true, scientific instinct avoids prepossessions, indocility and obstinacy in receiving evidence, as resolutely as it avoids romancing, sentimentality and credulity. It is hospitable to all truth. This leads one to say with Socrates, "I would be gladly refuted if I say aught untrue, and would gladly refute another if untrue; but not more glad than to be myself refuted if untrue." To be free, ourselves, from error is the first duty, and to free another is a privilege not less sacred.

This study of what we may call Morbid Psychology is related to serious and perplexing moral questions. Heredity, environment, parentage, atavism, and other facts modifying human responsibility, at once confront us. Are we only what our ancestors made us, or have we still the power of contrary choice? Is the will a mere deduction of successive states of mind, and our conscious personality a mere memory of past and passing experiences? Are our legal restraints and educational methods a mockery? If the Cartesian dogma is to stand, "Animals are automata," and man to be but the best machine, which Descartes would not admit; if the potentialities of

matter explain the genesis of mind; if character is made *for* us and not by us, and the idea of duty is a delusion; then Atkinson and Martineau are right, "I am a creature of necessity. I claim neither merit nor demerit; I am as completely the result of my nature, and impelled to do what I do as the needle to point to the pole, or the puppet to move as the string is pulled. I cannot alter my will or be other than what I am. I cannot deserve either reward or punishment." If this be true, life is not worth living. But it is not true! Common sense revolts against it. Every sane man knows that he has the power of choice and self-control. Even the insane "can command themselves up to a certain point," and the laws of a lunatic asylum always recognize this fact.(10)

Those who accept the authority of the Scriptures are satisfied with its restatements of man's primitive and irradicable convictions. The soul that sinneth, *it* shall die. The children shall *not* bear the iniquity or guilt of the fathers. Though the law of uniformity prevails, there is the law of diversity, a tendency to divert from the original type. There is also the law of compensation. Environment, which works for evil, also works in redemptive processes; slower, perhaps, than deteriorating influences, but surely in the way of recreation. A friend of mine knew a lad in St. Giles, London, whose father was a burglar and whose mother was a prostitute. He was keen, adroit, intelligent, but thoroughly wicked. He robbed my

informant while talking with him. He would have ended his life, very likely, in a street brawl, in prison, or on the gibbet, had he been left alone. But, put into a Christian home, he became a pure, upright man, and never was known to violate the principles of strict honesty and truth. I saw in Spain a girl whom the missionary described as a "perfect angel," so chaste, lovely and Christ-like. Yet she, two years before, was, he said, "a perfect devil," so vile in heart and life. There is a freedom of choice and a recuperative power in a will set towards virtue. There is a renewing power in a will set towards virtue, and in a helpful environment, by which congenital evils are corrected.

As Anthropology is justly called the "Queen of Sciences," so Psychology is, by far, the most important department of this enticing study. It involves a knowledge of all the rest, man's physical and psychic, his social and ethnic relations, with all the events and products of human existence, illuminating the questions of his origin, progress, welfare and destiny. European societies have given less prominence to the psychic than to the physical and historic features; but the New York Academy of Anthropology was founded with special reference to the study of the neglected data with which this paper is concerned. We are endeavoring to verify, classify and formulate facts of the Involuntary Life which underlie the whole structure of philosophy,

religion and social life, in its structural forces. Psychology is the youngest of sciences, we are told. This may explain some crudities and errors, for children are often pretentious and presumptuous. The generals of Alexander fancied that they saw the Nile of the far west, when really it was the Indus of the East. Generalizing from insufficient data an unscientific student may jump at a conclusion as wide from the truth as is the Indus from the Nile!

"Non-expertness in science," says Dr. Beard, "makes more blunders than the most atrocious dishonesty. It cannot be too often repeated, line upon line, precept upon precept, that in science the prime requisite is not honesty, not general ability, not skepticism, not genius even, in other departments, but expert skill. That being absent all else is as sounding brass and a tinkling cymbal." He refers to an educated physician of acute observation, skeptical, as to psychical phenomena, who with this panoply of prejudice cannot attend a seance without falling into a trance state. The account he afterward gives of his vagaries are as amusing to himself as they are to his friends. He will hardly expect to become an expert.

It is because of this natural disqualification on the part of some experimenters and the impatient and superficial methods of others, that the course of science has been a halting, zigzag advance, as Prof. Huxley admits. It is for this reason that its hiero-

phants often speak disdainfully of introducing discovered truth into the patrimony of general knowledge as "a work of vulgarization." There is an esoteric and an exoteric side of these lofty themes. Science is not to dilute her teachings, or cheapen her treasures, by ill-timed familiarity. The phenomena before us have been justly viewed with prejudice because of the grotesque and mercenary uses made of them. But all reverent students of every class and calling in life, all who are qualified by nature, temper and training to prosecute these experiments and formulate their results, will find recognition and respect.

The foregoing considerations are not the utterance of final truth. They are intended to elicit, and not to close discussion. As an accomplished scholar, an English knight, known in both hemispheres for his medical and surgical skill, remarked to me at the close of a conversation on the Unconscious Life: "I feel like a little child." So must every adventurous explorer into this solemn realm of mystery feel. Yet truth is alluring. Shall we, then, stand still like islands, or move on like ships ?

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(1) *Mind*, April 1887. "Science and the Bishops."

(2) Francis Speir, jr. *Pop. Science Monthly*, March, 1888.

(3) Tyndall, "Virchow and Evolution." Tyndall, "Physiology and Pathology of Mind," p. 124.

(4) Lotze "*Microcosm,*" Bk. II., iii. Smyth's "Old Faiths." Mach's "Die Willensfreiheit des Menschen."

(5) "Grundzuge der Phys. Psychologie," p. 730.

(6) Thwing's "Hand Book of Anthropology," chaps. VII., VIII.

(7) Accordingly, a paper was read by me, Jan. 22, 1883, before the N. Y. Academy of Sciences on "Trance as related to Surgery and Sea-Sickness." My friend had promised to be present and corroborate the principles which my experiments had illustrated. Alas, that very hour Dr. Beard, himself, was entering the solemn trance of death! Suddenly interrupted in his studies, he passed away before many knew of his illness. His last desire was this, that he might have strength to record the experiences of a dying man, or at least, that some one might continue the study of this theme which had so long fascinated his adventurous thought. *Tuos ne ego, O meæ spes inanes, labentes oculos tuum fugientem spiritum vidi! Quintilian.*

(8) Clinical and Forensic Study of Trance. Medico-Legal Society.

(9) *Revue Philosophique*, Feb. 1888.

(10) Medical Jurisprudence, Hamilton, p. 132.

A CLINICAL AND FORENSIC STUDY OF TRANCE.

Read before the Medico-Legal Society, New York City, April 10, 1889.

The battle-ground of science to-day is the Involuntary Life, or, as another has phrased it, "the relation of Automatism to Responsibility." The theme opens a wide continent of thought. A few landmarks will prove helpful. A new chapter of the militant history of human speculations is being written. A new arena of conflict is reached. New forces are marshalled. New weapons of warfare are demanded, and new strategic points are to be gained. Vast changes are seen in philosophic thought, in traditional theology, in historic criticism and in scientific research. The limits of scientific inquiry are more clearly understood, and the essential unity of truth proved. The very perturbations of the human mind often herald the incoming of new light, just as the near approach of Neptune, through measureless space, was foretold by prophetic disturbances in the outermost orbit of our ever broadening solar system.

Let not ignorance and prejudice silence any Leverrier of our day, who dares to widen the field of inquiry, or force him to stand, as in ancient days, the propounder of a new law stood, with a halter about his neck, with which the populace might hang him if displeased with the innovation.[1] We must not retard the progress of knowledge by looking at the phenomena of life "Through the dulled eyes of custom and traditional opinions," but show "openness and simplicity of mind, readiness to entertain, willingness to accept, and enthusiasm to pursue a new idea,"[2] remembering that—

> "There are great truths that pitch their shining tents
> Outside our walls, and though but dimly seen
> In the grey dawn, they will be manifest
> When the light widens into perfect day."

The facts of the Involuntary Life, of which the Trance is the supreme expression, have been observed for centuries. But not until recent years have biological and medical investigators classified and formulated the phenomena involved. Cerebro-physiology has latterly made rapid advance. The first medical book placed in my hands by my preceptor, thirty-seven years ago, was Bichat's Anatomy. Professor Huxley calls this learned Frenchman "The acute founder of general Anatomy." Bichat laid down, for the first time, the distinction between the organic and animal, the conscious and unconscious life of the individual. He made life to be the unity

of separate lives of organic parts. This doctrine of synthesis he applied to pathology.

Diseases were like the perturbations of the planetary system. Therapeutics must show how to eliminate them. The way was cleared for a closer unity between biology and medicine. "Science and Culture," by Darwin, closes with the query, "How can medical education be so arranged as to give the student a firm grasp of biology? Without it, he is but an empiric, notwithstanding all the progress of what is called "Scientific Medicine."

Medicine, like agriculture, took its origin in the needs of man. As Chemistry and vegetable physiology gave agriculture a scientific basis, so psychology is to give to medicine a wider, richer development in the near future. In 1870, The American Medical Association adopted a resolution requesting medical colleges to establish chairs of psychology. It was then said, "Very few in the medical profession understand it. Here is an immense field to cultivate, and it will yield a rich harvest. Books, periodicals and lectures give only a glimmer. One must patiently, persistently study his feelings, impressions and repulsions in various relations and conditions." He must also be an acute and accurate observer of these conditions in others. Then the sneer of Voltaire will no longer have any basis in fact: "The doctor is one who pours drugs of which he knows little, into a body of which he knows less." Prof.

Tyndall says, that "Hitherto medicine has been a collection of empirical rules, interpreted according to the capacity of each physician." But we need to know the mind and soul as well as the liver and spleen. We need to treat the patient as well as the disease. Then will be realized the fullness of the Hippocratean beatitude, "That physician who is also a philosopher is godlike."

Psychology and Law.—The basis of litigation is continually found in alleged disorders of the mind and nervous system. The intelligent lawyer must study the neuropathic condition of criminals, with the immediate and remote factors involved, in order to determine the degree of responsibility, and so of guilt. Nowhere in the world, according to Edmund Burke, is law so generally studied as in this country. De Tocqueville made it one of the supreme tutelar forces of our Republic. Had he lived to see the completion of the first century of American law, he would have spoken with greater emphasis; for, though "All governmental affairs travel in the path of precedence," [3] there has been great advance in the line of procedure, evidence and competence of witnesses. Still, it is true that laws are changing. "*Leges humanæ nascuntur, vivunt et moriuntur: posteriores priores contrarias abrogant.*" [4] Had our political system been less flexible, it never would have survived the strain to which the exigencies of its first century have subjected it. Ex-Judge Davis

points out the needs of still further changes, when he refers, in the line of this discussion, to the Status Ebrietatis, and the place of the expert. He remarks: "It has long been evident that the State needs to give some systematic attention to the adequate presentation, in criminal trials, of the light which science throws on the subject, when the prosecution is met by the defence of insanity." He suggests that "All expert testimony of a medical character be independent of the selection of the parties, and placed, in respect to impartiality—though perhaps not in controlling authority upon the jury—in position like that of the judge." Speaking on this point, one of the judges of the Supreme Court recently remarked to the writer: "You medical men instinctively look at the facts of a case from a purely scientific point of view, while the law looks at the matter in the light of the public welfare." So Thucydides says that Cleon urged the Athenians to execute the Mitylœnean revolters as an act of retaliation, while Diodotus argued that they were sitting in deliberation and not in judgment; that expediency, and not naked justice, was to be considered; not what might be done under the law, but what was advisable. The man of science should not be destitute of a judicial temper and the lawyer should not lack a true, scientific spirit. But there are other lines in which these preliminary considerations point. All the learned professions are equally inter-

ested in the survey of this field of Automatism and Responsibility.

PSYCHOLOGY AND THEOLOGY.—The intelligent understanding of practical Psychology will help to rid religion of superstition, and give illumination to the teachings of Christianity, both as to the life that now is and that which is to come. There are problems of an exegetical character which the theologian will find cleared of much of their difficulty by the facts which wait enunciation. There are historical and homiletical relations which would require ample space to unfold. The moral and religious bearings of the Involuntary Life have been elsewhere considered.[5] We are now ready to look at the genesis and features of that form of the Involuntary Life known as TRANCE.

GENESIS OF TRANCE.—Trance, transit, "the passing over" from the voluntary, conscious state to the involuntary and automatic, is a condition or process which varies with the cause which originates it. It may be purely a pathological condition. It may be induced by suggestion, fixation, manipulation, or other means, as a scientific experiment. The initial and terminal bounds, with the intermediate phenomena, change as these conditions change. There have been fourteen kinds of Trance described, according to clinical features, such as somnambulistic, intellectual (or reverie), emotional, ecstatic, alcoholic, mesmeric, epileptic and cataleptic.[6] These all have

some features in common, as in the hypertrophy and persistence of mental impressions, but vary in detail according to the origin of the condition and the individual in whom Trance is induced.

In passing, it should be understood that, so far from being a proof of mental weakness, Trance is a condition "into which many, if not most, of those who have left the stamp of their own character on the religious history of mankind have been liable to pass at times. The union of intense feeling, strong volition, long continued thought—the conditions of all wide and lasting influence—aided in many cases by the withdrawal from the lower life of the support which is needed to maintain a healthy equilibrium, appears to have been more than 'the earthen vessel' will bear. *Ekstasis* is the state in which a man has passed out of the usual order of his life, beyond the usual limits of consciousness and volition. *Excessus*, in like manner, became a synonyme for the condition of seeming death to the outer world, which we speak of as Trance. From the time of Hippocrates, who used it to describe the loss of conscious perception, it had probably borne the connotation which it has had, with shades of meaning for good or evil, ever since." (7)

Clinical Features.—St. Paul and other apostles and prophets give some hints as to the origin and characteristics of this state. Many other great men since have left important data, particularly the emi-

nent scientist, Professor Agassiz. He invited experiments on himself, and made a conscientious record of them over his own signature. [8] One feature of value in this clinical record is the triumph gained over a superior mind that resisted the operator, and his candid statement of the delight which followed his surrendry. The experimenter was Townshend, at Neufchatel, and Mons. Desor was witness. "The moment I saw him endeavoring to exert an action upon me, I silently addressed the Author of all things, beseeching Him to give me power to resist the influence, and to be conscientious in regard to the facts." Ocular fixation induced weariness, and digital movements in front of the eyes deepened drowsiness. Other manipulations induced "an indescribable sensation of delight." Speech and vision were suspended, but hearing remained. After an hour of helplessness, Agassiz "wished to wake, but could not. It appeared to me that enough had been done with me."

Though in a state of confused pleasure, he "was inwardly sorrowful to have it prolonged." Quick transverse movements, outward from the middle of the face, at once broke the spell. A word would have done as well. From my records of 140 cases of Trance, during the past six years, including the written statements of some very intelligent patients themselves, I could easily compile a large volume. Enough, however, has been said as to the experi-

mental or artificial Trance in its clinical features. If we attempt to explain the pathology of the unconscious, automatic life, we find ourselves involved in endless speculations. The alleged *vis magnetica* of ancient thaumaturgists we ignore. That this is a subjective phenomenon needs now no argument. Sudden and enrapturing emotions, continued fasting or overpowering fear, develop it. A man of penetrating and commanding will—by slow and seductive processes, or by swift assault that leaves no time to question or repel, startling and abrupt as the gong of the Salpétriere—may capture both consenting and recalcitrant souls. Prof. Laycock thinks that the theory of reflex action in the cortex of the brain explains the exaltation of perception and the dulling of self-consciousness. Another suggests cerebral anæmia, or analogous encephalic exhaustion at the expense of sensory ganglia.

Dr. Mortimer Granville makes normal sleep the sum total of five factors, muscular, visceral, sensory, automatic and cerebral repose. He differentiates thirty-six varieties of disturbance, which it would be irrelevant now to name. Dr. Liebault assumes the fact of serene and restful repose in hypnosis, from not only the bodily ease and facial expression, but from the answer uniformly given by the entranced, when left alone—to the query, "what are you thinking of?" He says, "nothing," whereas in ordinary sleep the brain is active. The tracings of the myo-

graph and pneumograph are helpful at this point, as well as in the exclusion of the possibility of simulation.

From the days of Liebnitz, Mental Automatism has been studied with increasing attention. Its limit and condition is the personal equation which distinguish men. Braid, nearly half a century ago, laid the foundations on which Prof. Charcot, ten years ago, began to rear a scientific system. This accomplished French scholar began with the simplest clinical facts of hysteria as a basis, such as the reflex action of the cortex, a passive and plastic condition favorable to control. He noted also certain zones of cutaneous areas and hypnogenous pressure points, irregularly distributed over the body, the manipulation of which induces sleep, as the pressure of other points induces tetanic paroxysms in some epileptic patients. Another fact proved, was the abortive treatment of hysterical attacks by hypnosis. A third, was the palliative and remedial effects, by the same agent, in muscular contractions and paresis, which complicated the original trouble. Indeed, the field is so large, and the clinical facts so abundant and enticing, there is danger of giving an undue space to them, rather than to the forensic relations of the whole subject. We pass at once to the ethical and legal bearings of Trance.

Legal Bearings.—Six questions will guide us. They have been all presented to, and answered by,

one of our ablest judges, but his opinion and my own are withheld, as the aim of this paper is tentative and suggestive, intended to elicit and not to close discussion.

1.—Is any reconstruction of the laws of Evidence needed in view of these facts of the Involuntary Life?

Allusion has been made to perversions of the senses, to the hypertrophy and continuity of mental impressions. To this might be added a second, the moral as well as sensory hallucinations which have been unquestionably created by external suggestion. A third point, which, if ever alluded to in the copious literature of the subject, has escaped my notice, is sexual erethism, an occasional sequel of this form of induced unconsciousness, as it frequently is a result of the inhalation of nitrous oxide gas, or sulphuric ether in surgical clinics. A glance at each of these suggestions is all that the limits of the discussion allow.

As to the testimony of the senses. It has been said that seeing is believing, and if the testimony of the senses is not to be received, our courts of justice might as well be closed at once. There is truth in this, but not the whole truth. John Stuart Mill believed, with his father, in the sensuous origin of all knowledge, saying, "*Nihil in intellectum quod non prius in sensu.*" Dr. Beard went to the other extreme, and said that "Only fools trust the

sight. Seeing is not believing, but doubting, for what is all human science but a correcting of the errors, and a supplementing of the defects, of the senses ?"

In 1884, while questioning a sensitive, in Boston, as to certain illusions created by my suggestion, and made real on returning to the normal state, I remarked, "Would you take your oath in a court of justice that you had seen these objects and experienced these sensations ?" "Certainly, I would," was the reply. "You see the value of some human testimony," I remarked to bystanders. One of them chanced to be Prof. William Jones, M. D., of Harvard College. This accomplished psychologist has recently made valuable contributions to physiological optics and showed by diagrams how illusory certain spatial distances are, even to one in the normal state. He says, that the "facts of vision form a jungle of intricacy." Only culture, experience and a sound cerebrum are trustworthy witnesses of visual facts. "The whole education of the artist consists in his learning to see the presented signs as well as the represented things."[9] Helmholtz shows that the vitreous humor always holds the *muscœ voliantes*, but they are not noticed till some lesion is suffered and the attention drawn to them as to a new discovery. The fact that one eye has become blind has not been noticed for some time, till the accidental closure of one eye, the sound one, reveals the fact. Volkmann[10] says that the excitement of one set of ret-

inal fibres will inhibit the function of another set and prevent discrimination. Still further retinal stimulation may restore normal vision. "Fallacies innumerable exist until optical discrimination is educated and the verdict of certain chaotic primitive sensations is corrected by a larger knowledge." Prof. James adds, "In the matter of taste it seems to me that more men are normally nearer the Trance state than in respect of their other sensations. Suggestion as to tasting, influences them more easily. The peculiarity of the trance subject is that *all* emotions are falsified and overpowered by the imagination. In all men some sensations are. As we approach the sense of hearing, deceptions abound." In experiments with university men, students of his, I illustrated, several years ago, some of these conclusions most satisfactorily, as he thought.

The argument is this: If there may be a sympathetic reproduction of ideas in another while he is presumably in a normal condition, may there not be a far more vivid duplication or perversion in the mind of the entranced? If optical errors deceive men in ordinary experience, may not psychological suggestions mislead when extraordinary influences bind as with a spell? And what is the value of the testimony of those who are thus readily thrown out of mental equilibrium?

Still more serious is the query when it is moral accuracy, rather than the certitude of visual or gusta-

tory experiences, which is to be determined. Visual errors are common and often vexatious and embarrassing, but perversions of the moral sense are more perilous to the individual and to society. A letter from Paris to a New York periodical, records the confession of a French gendarme, who said that he had committed murder. His language was, "Arrest me! I am a coward and murderer. I have soiled an unspotted life by an odious and stupid crime." "Why?" he was asked. "I do not know. He looked at me with a defiant air. I did not know him. I held a knife in my hand and drove it into his heart! I heard it scrape against his ribs—mercy! mercy!" The stalwart officer fainted. The man was the subject of an experiment. One of the professors of the Academy of Medicine had hypnotized him, given him a wooden spatula, calling it a dagger, and pointed out a tree which was made to him to appear as an offensive intruder. He was told to stab him and return and report the details, which he did, as just narrated. The stealthy approach to his supposed victim, his wary, anxious, furtive glances to see if he was watched, the ghastly pallor of face and agony of tone shown in the confession and the physical collapse, as well as the difficulty with which he was afterward ridden of the impression that still haunted him like the nightmare, attested the genuineness of the experiment. Similar cases might here be given where persons, laboring under delusions, have need-

lessly inculpated themselves. Grave accusations against others, also, are made of acts that have no existence outside their own disordered fancy. Incidents could be given to illustrate the erotic as well as erratic whims which are created by hypnotism in neurotic females, identical with the aberrations attendant on the use of anæsthetics. Their subjective sensations are to them objective realities. Their statement is intended to be truthful, but as legitimate evidence it is worthless.[11] Their dominant idea is well called by Carlyle, "diluted Insanity." It was this spectral testimony that sent thousands to death as witches,

> "In courts where ghosts appeár as witnesses,
> And swear men's lives away,"

on the principle stated in Fatinitza, "Flog first! explanations afterwards." Shall this *verruchtheit* always prevail?

2.—Is the training of the medical expert complete without a better understanding of this subject? To state the question is to answer it. There are, indeed, few who are alike familiar with the principles of legal and medical science. One man rarely masters two professions in all their details. But may not the training in each, law and medicine, be so broadened as to embrace a fuller knowledge of the profound truths of psychology? Can the perplexing questions which arise, as well in our civil courts as in the

higher, be fairly met without a better acquaintance with the border-land of Insanity in which so many live? Is not the prevailing ignorance on this subject the frequent cause of popular and professional jealousy and dislike with reference to expert testimony?

An English judge has recently suppressed the expression of a medical man's opinion, about to be offered in evidence on an insanity plea, and given notice that in every future case he will deal with all medical and scientific experts in the same way. They may simply say what they saw and heard, but give no opinion. "For a man to have close and intimate practical knowledge of some part of the field of science is, in some quarters, apparently a reason why his deliberately formed opinion on a subject within the sphere of his studies should be suppressed in a court of law, and the point of issue be decided by untrained minds. Carry this to its logical conclusion, and we must set up ignorance as a chief qualification of those fitted to decide scientific questions." (12)

It is not strange that the editor quoted, calls for some public authority outside to initiate a change, in view of such inexplicable ruling.

3.—May not malingering among the insane be sooner detected by the application of the facts of the Involuntary Life?

The simulation of diseases and disabilities is a

common occurrence, met with by all who have their fellow-men in durance. Subjective symptoms are very misleading, as the testimony of officers of prisons and asylums will show. A military deserter to escape punishment remained apparently unconscious for more than two months. (13)

Beck and Gavin tell of others whose pretended insensibility was not detected by aloes in the mouth, shower-bath or electricity. Only the actual cautery intimidated. Somnambulism has been feigned to cover crime, or to excite pity; so, also, deaf-mutism, paralysis, contractures, hæmorrhagic and cutaneous changes. Recent experiments on himself by Dr. Ossip Feldman of Russia, before the Medico-Legal Society, demonstrate the power of acceleration and retardation of the heart's action within wide bounds, possessed by some skilful experimenters. The sphymograph alone is an insufficient guide or test in detecting the malingerer. The myograph, as used by Charcot, is more satisfactory, particularly in hysterical traumatic contractures. But mechanical appliances are only decisive in the hands of those who understand the normal and aberrant features of human thought and feeling. Science demands the severest scrutiny of all phenomena, and the elimination of every possible element of fraud, deliberate or unconscious.

Six sources of error have been signalized into which investigators are likely to fall. (14) The first,

the overlooking of those interactions of mind and body below the plane of volition and consciousness. Secondly, the innocent self-deception of the subject experimented on. A knowledge of Trance is indispensable to detect self-imposition. Counter-deception is advised; that is, doing nothing when something is expected; doing something when nothing is expected, and doing something different from what the sensitive believes is being done. Deliberate deception, the third source of error, is to be met in the same way. Intended and unintentional collusion of third parties forms two more sources, and the overlooking of the element of chance and coincidence is the sixth.

The question of the detection of malingering is really a corollary of the previous one, the training of medical experts as witnesses in legal trials. This brief allusion is sufficient to show its commanding importance. Reviewing the clinical and forensic facts considered in reference to Trance we now ask:

4.—Is there need of any legal surveillance in private experiments or public exhibitions? Civil authorities have, in foreign cities, occasionally restricted or prohibited them, and the *British Medical Journal* for March 3, speaking of the artificial Trance, while crediting it with curative results in hysteria, adds, "a far more serious and thorny question is that which bears on the medico-legal aspect. The impairment of volition which results

from repeated induction of this condition is a factor of which the law ought to take cognizance." Temporary insanity has sometimes followed injudicious experiments and exciting concomitants, particularly where an unskilled operator loses his own self-possession. (15)

As Trance has been invoked, and used successfully, in the control, if not eradication, of vicious appetites, it is quite possible to impart permanent tastes for persons, objects and indulgencies, good or evil, and to intensify the same by repetition. This is but a hint of the amazing perils and possibilities of a developing science. It also gives emphasis to the query as to any special custody in which parties should be held who are related as experimenter and subject.

"He touches heaven who lays his hand upon a human frame," says an enthusiastic German writer; but he gets near to the Creator who knows how to evoke, direct, control and utilize these marvelous psychic phenomena in the service of humanity.

5.—Is it justifiable to use this condition as an inquisitorial agent? The revivication of memory in the exaltation of Trance, constitutes what has been called "an artificial Day of Judgment." Through inquiry and suggestion the mind is steered along a labyrinth of bygone events, names, places and dates. "Crimes are revealed in this condition, even dating back to early childhood. We have absolute control of the subject, and absolutely demonstrative experi-

ments of the genuineness of these Trance-Confessions can be made." Detectives have availed themselves of the confessions of the intoxicated, and alienists have profitably studied the insane while asleep. The query suggested by these facts is this: Is it justifiable to take advantage of a person in this abnormal state and lead him to inculpate himself, if suspected of wrong doing?

6.—A final question remains: Is any revision of the Penal Code desirable in view of the facts which the present scientific study of this matter has elicited? This carries us back to the initial and germinal idea of the whole discussion, the relation of Automatism to Responsibility. It is an ethical as well as a physiological question. It is related to the profound problem of Criminal Anthropology; and so comes within the scope of legislation. Is man only an automaton? Has consciousness—the self-recognition of the *ego*—any causative relation to physical action? Have volitions any power, or was Emerson mistaken in saying that "Thoughts rule the world?" We all admit the fact of an acquired automatism, the product of habit, a second nature as it is called, but is there, or is there not, a self-determining power of the will? Do the phenomena of the Involuntary Life show man to be irresponsible? It is believed that the bulk of men, if not all, are susceptible; that is, they would or could enter Trance under favorable conditions. Does this—assuming it to be a fact—

militate against the freedom of the will? And are those who recognize their special susceptibility and admit their frequent surrendry of consciousness and volition, in experimental tests, to be regarded with any more favor or consideration before the law than are the victims of strong drink? Is this susceptibility to Trance strictly a disease, or akin to Insanity? If so, the acts of the entranced come to be, in some sense, those of irresponsible agents.

The subject is copious, but it is time to say with Virgil's shepherd, "*Claudite jam rivos pueri; sat prata biberunt.*" The further we explore this wonderland, the more abundant and alluring does the wealth of material become. This paper is but a hint of what is left unsaid.

As Columbus caught sight of the Orinoco, he exclaimed: "This river flows not from an island, but from a continent!" He was right. That stream drains 650,000 square miles, and receives the water of nearly three thousand tributaries. It is a fit symbol of the opulence of that vast and comparatively unknown continent of truth which Psychology has begun to explore. We have hardly passed the portals. "A great and effectual door is opened to us and there are many adversaries," with not a few difficulties to overcome. But Science is unabashed. Slowly, yet surely onward she makes her solemn journey into this land of maze and mystery.

(1) Medical Legal Soc. Papers, Vol. III., p. 360.

(2) Duke of Argyle, Chap. VII., Reign of Law.

(3) Joel Prentiss Bishop.

(4) Coke, VIII., 25.

(5) Thwing's Handbook of Anthropology. Proceedings American Institute Christian Philosophy, 1884-5.

(6) Nature of Trance. *Beard.* Putnam's Sons, New York.

(7) Smith's Bible Dictionary.

(8) Notes Relations on Magnetism.

(9) *Mind*, October, 1887, also Lotze and Lipps.

(10) *Undersuchungen.*

(11) Hamilton's Medical Jurisprudence, p. 493.

(12) *British Medical Journal*, March 3, 1888, p. 477.

(13) Edinburgh Annual Register, Vol. IV.

(14) *Popular Science Monthly*, March and April, 1879.

(15) "Subjects are generally not injured, physically, but benefited by the habit of going into artificial trance; but there are exceptions, especially with those who develop the phenomena of trance-seeing. Suicide can be committed by persons in any of the natural forms of Trance. It is possible for the operator to rob a trance-subject while in trance-sleep, or kill him, or to inflict any injury upon him whatsoever. He can compel him to commit suicide at a definite time, several minutes in advance; meanwhile, the operator can get out of the way. He can cause him to sign documents, or to transfer property, or to make a will. When two persons are in trance they can be made to fight a duel. The responsibility in all these cases rests with the operator, and no new laws are needed." *Dr. G. M. Beard.*

It may be added that this inexplicable witchery over their fellows is exerted by men and by women in the ordinary intercourse of life; in business, as well as in other relations. A bird charmed by a snake is no more powerless than are some souls in the toils of adroit schemers. And what is love, sometimes, other than delirium? "*Amantes, amentes.*"

THE BASIS OF REMEDIAL SCIENCE.

A Lecture delivered at the New Jersey Medical College. At the opening of the Spring Term, 1889.

Remedial science is the scientific study and application of remedial methods to the individual and social needs of human life. It is a study, theoretic, tentative, experimental. Erastus Darwin said to Edgewood: "A fool is one who has never made an experiment," a trenchant way of expressing the necessities of initial science. What is legislation but a series of attempts to adjust the relations of society, from the simplest, archaic conditions, down to the present complex civilization of our age? Through what constant revisions has statutory and unwritten law passed, as varying needs require. What a kaleidoscope of brilliant and ever-shifting thought does philosophy present. So with philanthropic endeavor. Man is the same, but the problems of want and waste, the leakage and drainage of society, present new features every century. Re

medial methods, therefore, must change with the changing conditions and environments of men.

But Remedial Science is more than a study. It is the practical application of accredited means to an end, the individual and social needs of human life.

Furthermore, it has to do with both the actual and the possible life of every man. It is not only antidotal, but preventive. It conserves the good, while it remedies the evil. There is wisdom in relief, and prescience in forefending ill. Deterrent as well as curative methods are used; anticipative as well as restorative. To thwart disaster, to preclude loss, is better than to palliate and repair Thus Remedial Science has to do with the future, as well as with the present exigencies of society. Its scope is broad and its work humane. The basis should be ample.

Psychological Science is the true foundation. Man is the unchanging factor. His nature and needs, the physical and psychic elements that enter into his constitution, his capacities and possibilities, the normal and aberrant conditions of soul which go to make his responsibility or irresponsibility, heredity and many other medico-legal problems lie at the basis of any intelligent scheme of relief. Take, for example, the industrial problems which to-day are among the most intricate and perplexing of any that tax the thought of legislators and reformers. Volumes are written on capital, labor, the law of supply and demand, the changing values of money

and merchandize, while the one, unchanging factor is almost wholly overlooked, the MAN himself, his nature, needs, possibilities, the foundation facts of Psychology which enter into all questions of industrial and social reform. Some persons blindly clamor for a uniform division of wealth. Let the spendthrift and the toiler, the drudge and the drone share alike. Were such a division made to-day, and all pecuniary distinction levelled, a new division would be demanded to-morrow, for the ineradicable facts of human nature remain. The thrifty will be thrifty still, and the lazy will be lazy still. Till man be understood, these revolutionary theories only illustrate an ignorance as profound as it is audacious.

Look at Educational Science. A multitude of divergent social tendencies are seen, representing varying feelings, tastes and opinions. These are so variable that Herbert Spencer suggests a diagram to indicate their rise and fall, after the manner of an unstable, panicky stock market. "Men pair off in insane parties," says Emerson. Social conditions undergo a continual metamorphosis, but man remains the central problem, after all. The personal equation takes precedence. In the delicate manipulations of the telescope and in the record of astronomical observations, each operator is examined individually, to determine the nicety of his auditory and visual impressions and the celerity of

his manual touch. Each man is registered. Men vary among themselves. The condition of the same operator, also, varies as the days go by, and his record is continually subject to revision. So is it with all the mental measurements with which educational science has to do. Superficial teachers and mechanical book makers are ignorant of those occult affinities and subterranean avenues of spiritual life which are familiar to adroit masters of men. Their text-books and teachings are the same for all minds. They have but one Procrustean bed. But the wise moulder of mind recognizes each diversity of taste and temper. He aims to transfuse and not merely to transfer. Shelley fainted when "Christabel" was read. This work of Coleridge stimulated Sir Walter Scott to write "The Lay of the Last Minstrel." But many a stolid critic has doubtless said of this poem, as the mathematician said of "Paradise Lost," "I see nothing attractive in it, for it *proves* nothing." Buffon tells us that he would sit fourteen hours a day at his desk in a state of transport, so fluent and affluent was his creative genius. The thoughts of other students struggling for egress are like men buried alive, who beat their coffin lids in vain. It is as true in educational science as in therapeutics, that *Corpora non agunt nisi soluta.* The author and teacher must merge their very life in their teachings, "as gold lost in Corinthian brass, leaving no separate monumental trace of its influence, added color,

weight and worth to the metal into which it melted." An intelligent reception of the principles of practical psychology would give an immeasurable impulse to educational science.

So with Medicine. Voltaire said that a doctor was a man who poured drugs, of which he knew little, into a body of which he knew less. Nature and disease have been compared to two men fighting, and the physician, a blind man who joins in the fray. He hits sometimes one and sometimes the other. This is hardly a burlesque on our empiricism. Professor Tyndall says that medicine has not been a science till recently. It has only been a collection of empirical rules, interpreted according to the sagacity of each physician. Professor Huxley makes a similar remark in regard to pathology, the foundation of which is physiology. Harvey's *De motu cordis* marked the twilight dawn. Modern microscopy marks approaching noon; but it is Psychology alone that is to give plenary significance to the beautitude of Hippocrates, "That physician who is also a philosopher is Godlike." We must treat the patient as well as the disease, taking the entire man into account, the soul as well as the spleen. Oftentimes the whole trouble is *imaginitis*, as a student of Long Island College Hospital well termed it. The imagination kills. It may cure. It has, therefore, its place in Mental Therapeutics.

Were illustrations in another field of thought need-

ed, we might refer to Theological Science. A century ago, the battle of Christianity with Infidelity was fought out on the line of metaphysical speculations, with the bows and arrows of obsolete warfare, as Hugh Miller has said. But the field and the weapons are now changed. Combatants stand in a new arena. Challengers choose their own methods of assault. What now is needed, as Martineau has said, is "a living faith, true to the conscience, true to the intellect and *true to the realized science of the day.*" We are to study men, not as abstractions, but in actual life. We do not go to the cloister and medieval manuscripts to formulate the powers and possibilities of the soul, but to the psychological laboratory, to the lecture-room, the clinic and to the highways and byways, as well; indeed, wherever human life in its normal or aberrant features may be studied. By this practical inspection of the soul's activity in its every day forth-puttings, in its struggles, successes and failures, we come to a knowledge of man that can never be found in books alone. Consciousness, the inarticulate depths that are beneath human speech, the basis of identity, the existence and limitations of the will, individual responsibility, and other vital coefficients of our moral being are to be measured and mated in the light of the "realized science of to-day." Mere dogmatism or medieval mysticism will no longer avail. Quiddities and sophistries and all illusory introspections must be brought face to face with

the ultimate and irreducible facts of individual experience, and actual life. From these there is no appeal.

A professor exhibiting certain chemical experiments before his sovereign, belittled himself and the austere nobility of science by saying: "These gases will now have the honor to unite before your Royal Highness." Science is not a sycophant. It deals in frozen facts and speaks in no servile or hesitating tones. It is a leveller and iconoclast. Sciolism may stoop, but Science cannot. Its other name is TRUTH.

The studies of the department which I have been unexpectedly called to conduct in this Medical College comprehend Nervous Diseases. No theme in the whole curriculum is broader. None assumes so grave importance. In a paper read before one of the medical societies of London, in 1887, on "American Life as related to Inebriety," I have particularized some features of our social, civic and political life, as well as the psychic and physical factors of the American himself, which help to make this land "The Intemperate Belt," as it is called. Your attention is directed to that discussion.

Criminal Anthropology is another ancillary theme. Human life in its criminal aspects opens a vast continent of thought. The territory is almost boundless, coterminous as it is with that of human responsibility. Man in his relations to crime involves a study

of his normal and diseased conditions, of his social and ethnic relations as well. Physical and metaphysical aspects, clinical and forensic, the moral and historical bearings of the subject need to be made familiar to you.

1. The Psychic investigation of human crime will unfold at its initial point the existence of a will, and determine the degree of freedom which that will enjoys. What is the physical basis of the will? Do purely bodily functions run parallel to the rudiments of volition and practically become their physiological equivalents? Maudsley has shown that the nervous system can execute purposeful acts, through the muscles, without the intervention of the will or even consciousness. An infant born without a brain has sucked a finger put between its lips. Similar movements of aggression, of defence and of pleasure-seeking have been also obtained by Goltz from a headless frog. Consciousness is said to have not one-tenth part of the function it is usually assumed to have in the ordinary mental operations of each waking hour.

Then we must consider the interactions of the plastic and functional sides of brain life; the nutritive and the disruptive, in which action it is claimed that all phenomena have determining conditions in an antecedent state of the body. This seems to militate against free choice. It is a point of great importance as related to the responsibility of man.

Then, again, we must understand better the parallelism between these physiological processes revealed by the senses and the psychological learned through consciousness. Spinoza says that brain is visible mind and the mind is invisible brain. Passing from these theories of the normal will and of normal consciousness, physically and metaphysically viewed, we take up the pathological side of the subject and examine the perversions of the will, the disintegration or degeneracy of moral sensibility. This is sometimes congenital, as in the case of Pomroy, the boy fiend, and others like him; or that of the idiot, noted by Morel, who enjoyed funerals so well that he killed a fellow-patient to furnish material; or that of another, at Earlswood Asylum, who himself sat smiling while the surgeon tore his nail off. This physical and moral torpor is also the result of disease, as in various forms of insanity, where, for the time, all co-ordination of function seems lost. It is also artificially produced, as in the hypnotic trance, where there is no lesion in nerve centers or any structural disorder, but a general anæsthesia, yet vivid responsiveness to outward impressions and suggestions.

It is unquestionably true, as Maudsley states ("Body and Will," p. 273), that the impairment of will goes on through generations by the effects of vice and disease, and that this has been too often overlooked, both in the penal and the reformatory methods in vogue. The umbilical cord that binds us all to the

past is not easily cut. The solidarity of races, peoples and families is a solemn, stern and stubborn fact.

But it is also true (ibid, 295) that whatever our inheritance of ideas and impulses may be, whatever these hidden molecular conditions of blood and brain are, "a similar condition of the nervous system is brought about sometimes by special nerve-enervating causes—a mutinous movement we call choreic, a kind of St. Vitus' dance of the idea or impulse—a functional dissolution of the mental organism, the consequence of which is a disintegration of will." These and kindred themes of Psychology lead at once to Sociology.

2.—In the study of Criminal Anthropology we must exhibit not only the normal factors of a sound, healthful, social life, but the disintegrating and infectious elements, as well, which are working out a fatal decomposition. The latter are more destructive and virulent where social conditions are as unique as our own to-day. Civilization is complex, intricate, delicate, full of perplexing and embarrassing relations. Our methods of meeting them, whether punitive or philanthropic and remedial, must be correspondingly elaborate, minute and sagacious.

The biological study of crime, already hinted at, is but auxiliary and introductory to its sociological. Our age is one of feverish intensity. The stolidity, sterility and immobility of oriental peoples find here

a startling contrast in the tumultuous vitality of modern society. We move in no ancestral grooves, but our business is a scene of ceaseless agitation, "an Atlantic storm which scarce knows repose. We buy, we sell, we tear down, we build up; we put girdles round the globe, as if time were but an hour, and eternal destiny hung upon these material issues. Every day of the year somebody's brain reels. Insanity is part of the price we pay for our Western civilization." So says Dr. J. O. Putnam, at the Buffalo State Asylum. It is the work of the Sociologist to collect data in the fields of social and political science, and formulate principles for legislative and individual action, and in no matter more dilligently than in penology and related topics. The whole field of Medical Jurisprudence is opened by this subject. We are to determine, for example, the equipment of a competent medical expert, and the medico-legal relations of Insanity, Suicide, Dipsomania, Kleptomania, Epilepsy and many simulated diseases. Malingerers are found outside the prison and hospital among sailors, soldiers, workmen shirking toil, rogues who prey upon our sympathy, or thieves on our property. They understand their business. They sometimes deceive the very elect. Gavin in his "Feigned Diseases," records many cases, and the late Dr. George M. Beard in *Popular Science Monthly*, April 1879, has given timely suggestions as to circumventing fraud. There are a multitude of other

anciliary topics: Heredity, Marriage, Parentage, Inheritance of Ideas, Sanitary Science, the Ethics of Architecture, Climatic Conditions, Rural and Civic Life compared, Immigration and Industrial Problems.

3.—We have, finally, the historical relations of crime; racial tendencies to trace, and comparisons between different periods and peoples, in which study the Archæologist is an indispensible ally. The collection of crania by the Anthropological Congress at Rome, of handwriting and photographs at Paris, of the whole paraphernalia of crime, ancient and modern, now scattered in many foreign museums, are hints of the illustrative material available and helpful in the systematic and scientific study of this unique and opulent department of Medico-Legal Science.

In conclusion, fellow students, a word as to the collateral branch of this department, "Mental Therapeutics," or, as Bernheim calls it, "Suggestive Therapeutics." This makes conspicuous the personal equation on which all Remedial Science is founded. The man, as well as the malady, is to be treated. His own mind is to be regarded as oftentimes a more potential ally than the diet or drug. This simple axiom is to be presented, cleared of the mystery and quackery with which ignorance and cupidity have invested it. There is a treatment in which neither Christianity nor Science is found, though it claims

both. There are Faith Cures in which faith in God has really little to do. There are thaumaturgists of all sorts, by which multitudes are led astray. It will be your vocation as medical men to disengage truth from rubbish, and exalt the sacred art of healing to the position it deserves. You are to study your patients as well as their ailments. Very many of these are imaginary ills. Even in real disease the mind itself is a chief factor. Lecturing on tonics, Professor McCorkle, of Brooklyn, says, "The best tonic that you can carry into the sick room is HOPE. Dwelling on one's disease brings about functional and pathological changes, but hope is better than quinine." In its normal condition the body is affected by the emotions. It is even more tyrannized by them when diseased. This is true quite as often in male as in female patients—64 to 36 is the ratio of cases reported by Dr. Tuke. Expectation is an ally of amazing power. Professor Gerbi cured 401 out of 629 cases of odontalgia through this agency. We often say, "It is only the imagination;" but the imagination kills and it cures. We are not to despise or minimize its power.

Nor are we to reject as impossible other occult processes which we are at present unable to explain. Sir Benjamin Brodie thinks it probable that our nervous force is some modification of the force that produces electricity and magnetism. Oxygenized blood may act on the cortex as acid on voltaic plates.

To deny is not to disprove. Dr. Tuke has well said, "There is such a thing as a scientific snob. It is he who is quite certain that he has fathomed the depth of the great ocean of knowledge, and can guage the spheres with the measure which he carries in his pocket."

For nearly a score of years it has been an exhilerating work to meet, from time to time, in our preparatory and professional schools, eager and inquisitive minds, and to lead them in branches of knowledge familiar to my thought. The themes now before us in this College and in this department are alluring in their scientific and humane aspects. I could wish myself better prepared to handle them, but shall rely alike upon your considerate indulgence and your kind co-operation.

THE MYSTERY AND MASTERY OF MEN.

An Address delivered November 11, 1884, before the American Institute of Phrenology, New York City.

Did you ever think what a symbol of the soul is furnished by the sea? In its capacity, contents, characteristics and functions, it pictures the life and powers of that boundless, fathomless mystery which we call the human soul. You have stood by the seashore and gazed on the ocean's glory and gloom; have listened to its music and moan, and watched its ever varying phases in storm and sunshine. You have crossed the Atlantic, perhaps, and seen its rest and raging, its beauty and its horror; fascinated alike by each; looking sometimes at the grandeur of the gale, and again at those mysterious fires at night, that seem to burn like molten silver in a sea of ink. The sea has wonders but little known. Science, indeed, has entered into the treasures of the deep and walked its paths in search of its life and law, but

how meagre the results. The watery realm is made the highway of commerce, and its vital forces, though unexplained, are utilized in the material interests of society. So is it with men. We know them as physical substances, we use and abuse them, but how superficial is our interest, beyond what we can get out of them.

As in the sea, so in the soul, there are depths which no plummet-line has measured. There are cargoes of wealth, slumbering energies and magnificent possibilities as yet undiscovered, that might enrich the explorer who knew how to draw them out. There are buried treasures in the secret and sunless caverns of human hearts, blasted hopes, withered friendships, shipwrecked opportunities, some of which might be, perhaps, restored to the soul.

The restless and resistless energies of the sea are but feeble types of the finer, fiercer forces of man that ought to be utilized in the service of God and of humanity. Science claims to have mastered the deep, to have tamed its tempests; to have found out those celestial currents that pull the needle to the pole; to have formulated those astronomic and meteorological facts which guide us over ocean highways as safely as over those of steel and stone, so that we travel the Atlantic with the regularity and restful certainty of a railway journey ashore. But who has formulated the facts of human thought and emotion, "entered into the springs" of this sea, and

"measured the waters thereof in the hollow of His hand?" Navigators map out the ocean, but where is the chart of a human soul? There are more circuitous passages and perilous currents, rocks and shoals, simoons and cyclones to be encountered there, than those which the mariner meets. Nicer calculations are needed, more patient watchfulness, more alertness and skill than are required in navigation. The sailor reads the sky, studies the clouds and watches the waves—their color, altitude, velocity, momentum and pulsation. But there is no object in the universe so wonderful as the human face, a crystal glass, as it were, through which we see the soul in its ever-changing phases of feeling; now full of hope, joy and love, now dark with portentous clouds that tell of gathering anxieties and sorrows, or sullen, wrathful passion. The skill which the sailor has in the interpretation of certain signs and phenomena at sea makes him a marvel to the uninitiated, and so it is with the physiogonomist or psychologist who has studied the greater mystery, man.

It is easier to expatiate on the Mystery than to show the method of Man's Mastery; easier to show how fearfully and wonderfully he is made, than to tell how he is to be controlled.

What is the genesis and growth of that subtle something which we call PERSONAL MAGNETISM?

This is a common phrase. It conveys no specific idea, for no one yet has analyzed it, fully; perhaps

ever will until we know what that mysterious influence is that allures the needle to the north and holds it there. When that is done, or Electricity is explained, we may know what it is that makes one man obey another, almost in spite of himself.

Science often lends to art and ethics convenient phrases. A term applied to metals often fits man. Relations of the physical universe find their parallel in the moral world. Hence we borrow phrases from the former, to explain the phenomena of the latter. Prof. Phelps says that "Thought and feeling, spiritual power and animal magnetism are a conglomerate that lie molten together." A magnetic line may sometimes be laid down between the pulpit and the pew in the first five minutes of the delivery of a sermon, which shall vibrate with electric responses all the way through. The "mutual magnetism between speaker and hearer" bears a perfect orator onward "without the aid of manuscript or memory."

Now, what is this subtle power? Shall we call it "Sympathy?" That phrase approaches the idea but faintly. It does not carry the plenary significance of the element we wish to exhibit.

Shall we use a phrase taken from psychology and say "psychical contagion?" We now get nearer to the conception of that condition which a man of powerful, distributive personality is able to induce in the average audience. Yet this word compasses the effects rather than the cause. Shall we say "Atmos-

phere?" This term, used by Bushnell and other writers, expresses another form of the idea. It is an effort of language to describe that mysterious efflux of soul which men feel, but which is hard to analyze. There is something which goes out of and envelops a man which is perceived and received by those about him; which infects the very air in which he moves among them with irresistible power. We call it his "air." It is felt so directly and palpably that it is not strange that some writers talk about "atomic affinities"—as though it were purely a physiological fact—and "chemical vapor," like that which is supposed to be exhaled by the Upas Tree, or the pungent odor said to be ejected by the rattlesnake, traced by negroes two hundred feet away.

This invisible atmosphere, or radiation, as heat from a glowing coal, attracts men as a magnet attracts fragments of steel. Philip Hamerton says that powerful persons emit a physical influence which prepares those they touch to submit. Much of their moral influence is through this physical contact which excites the nervous system "with an odd, tingling sensation." He felt this himself, he says, as he met Napoleon III. A friend, also, who came in contact with the late Emperor "felt a shock of immeasurable power." He adds, "Who could have touched Cæsar without feeling this magnetic emanation? Dr. Livingstone says that the contact of the lion's paw conquers the will of the victim, and makes

him indifferent to its bite. So a great human power fascinates the imagination and subdues the will. Before the kings of men open their lips, the listeners are ready to obey."

What is the source of this inexplicable power? It is subtle, pervasive, elusive. It refuses to yield to us its name, its atoms or its laws. Yet we may push our search with profit, even if we do not yet learn all that we would wish to know. We may hint at some sources of this masterful influence, though no single one of these particulars is a sufficient cause in itself.

First.—It is manifest that Personal Magnetism presupposes, ordinarily, resiliency of health. This is a physical basis. It may not always exist, but exceptions only bring the general principle into more prominent view. Feeble people are not apt to control their fellows. On the other hand, mere strength is insufficient. An ox is strong, but stolid as he is strong. Many men are stalwart and vigorous in muscle and mind, but utterly destitute of personal magnetism.

Still, that elastic buoyancy of spirits which marks positive health is itself infective. It gives a ring to the voice, a sparkle to the eye, warmth to the touch, and firmness to the step.

Whether or not life is worth living "depends upon the *liver*," it is said. If that organ is surcharged with bile, the owner will surely grow saturnine. He

will be likely to draw away from men and cause them to withdraw from him. Life is motheaten, and society has no charm for him. But a sound mind in a healthful body gives push and pluck and power. As Dr. Mathew says, "the first requisite to success in life is to be a good animal." In any of the learned professions a vigorous constitution is equal to at least fifty per cent. more brain. He admits that Pascal, as well as Paul, had the thorn of disease in his body; that Julius Cæsar was an epileptic and Pope an invalid cripple, but these may be forgotten in the brilliant Broughams, Palmerstons and Gladstones who have held the helm of state with steady hand till late in life. It used to be said in England, "The King never dies and Brougham never sleeps." Yet the latter when nearly ninety, was tougher than many a man at thirty.

Secondly.—The generative functions of life form an element of masterful energy. Dr. Henry Maudsley, in "Body and Will," says that we "eradicate the vital principle of morality, of poetic and artistic emotion, of religious feeling among mankind," if we "eliminate the sexual system and its intimate and essential mental workings from the constitution of human nature. In the conflict of the passions of our nature it is necessary to acknowledge and assimilate their true force and character, and so to get the best use of them, not by vain and foolish attempts to extinguish them as mortal enemies, but by wise and

patient efforts to turn and guide and use their forces in the path of a higher development. A castrated chastity is a chasity without contents. The holiness of Heaven postulates the root passions of Hell." Eunuchs, he goes on to say, are mutilated in mind and body, destitute of social and moral feeling. Lord Bacon refers to the same point, and every intelligent physician knows that aphrodisiac tendencies play an important part in hysteria and other nervous ailments. The erratic and the erotic are not far removed from each other, in many people. The more manful a man is himself, the more puissant he is in swaying others. Other things being equal, he has more leverage and scope of action, hence there is a quicker coalescence of his will with their will. Not only is buoyant, bounding health a segment of this "magnetic sphere," but a "virile manhood" is another. Its full development and firm control form a vital factor of this force.

Thirdly.—Temperament is another source. It has been well observed that this to man, is what climate is to a continent, its fate. The slant of the sun makes a zone torrid or arctic. So temperament is the light in which men look at things. It is the angle of vision. That is everything. Men have irreconcilable views because their outlooks are antipodal. One side of the shield is silver, the other, gold. If both sides are examined there will be no battle over it. Temperament may be disciplined, but how few attempt to improve

in this regard, and so it practically is one's fate. He who is sanguine will be sanguine still, and he who is phlegmatic will be phlegmatic still, as long as grass is green or the sea is salt. There are temperaments that burn with a perfumed flame. They carry light, heat and fragrance in their action, while there are others that may be compared to a blanket wet in ice-water. Men shudder and flee from them. "Dinner-bell" was the soubriquet given a member of the House of Commons, for his appearance as speech-maker was a signal for the departure of many who could not bear his dullness. A drowsy man is not magnetic, but one of nervous temperament—that is, full of nerves, quick to feel and electric to impart—he is magnetic, and controls the sympathies and actions of men with something of deific power. God is apt to single out men of this type for leaders. He has made them for this purpose and made others, with other temperaments, for the no less honorable work appointed them.

Closely allied to temperament, is another factor.

Fourthly.—Tact. It is ten times more valuable in the practical control of men than mere talent, which is an intellectual endowment, according to Coleridge, "lying in the understanding, and often inherited." Tact is the adroitness of touch, the handling power, and almost a perfect synonyme for this indefinite word Magnetism. It involves both knowledge and skill. Largely a natural aptitude, it is also a culti-

vated capacity. Tact is eyesight and insight and foresight. As we made Temperament to be everything, so we may say, Tact is everything, in the mastery of men.

This faculty enables one to put himself in another man's place, to see as he sees and to feel as he feels. This gives the experimenter in psychology, the student of medicine, the practitioner among the insane, a marvelous control. Tact is an invaluable teacher of rhetoric and oratory. It enriches one's vocabulary with those conciliatory, persuasive phrases that disarm opposition, and the voice with those tones of sincerity which compel belief, in spite of the evidence of the senses to the contrary. Tact inspires candor, the spirit of concession, frankness and ingenuousness, to which the bitterest antagonist bows before he knows it. The pleader need not lower the stringency of truth, but he conquers by new modes of attack. Tact is often wit. Instead of dogmatic, oracular assertion, the man of tact will hide his argument in a pleasant question, and spice his speech with sportive sallies that do not anger an opponent. They illuminate, but they do not burn. Wit was auxilliary to the magnetic tact of Erskine. Defending in court a man named Bolt, he repelled the insinuations of the prosecutor by affirming that his client, Bolt, was a man of such sterling integrity that he everywhere went by the name of "Bolt-up-right,"—a fiction that had its weight with the jury. The keeper of a men-

agerie once sought redress for the loss of his trunk. Erskine with ready tact and wit asked, "Why did he not imitate his own sagacious elephant, and carry his trunk before his eyes." That magnetic man, Lord Brougham, was able by his pleasantry—never forced or overdone—"to turn away wrath and to refresh jaded listeners; he could turn into a laugh the invective that had been destined to crush himself." Disraeli's wit was said to be, not the handmaid, merely, but the right hand of his power. His polished irony was the steeled hand in the silken glove. "The adder lurks under the rose-leaves of his rhetoric: the golden arrows are tipped with poison."

We must arrest this part of the discussion, for we have to consider the growth of this multiform power. The culture as well as the source needs attention. We have spoken about the mystery, and a few elements of the mastery, of man, resiliency of health, vigorous animal instincts and a temperament fitted to guide, inspire and control. Tact was a fourth factor. With a brief reference to a fifth, we must leave this part of the subject.

Fifthly.—A self-possessed soul, alone, can expect to possess others. A great deal is meant by this term in its active and passive use. In its regulative action self-possession gives the individual a serene and lordly supremacy over his environments. He sees just what to do and how to do it, without haste or embarrassment. It is not only an active, direct-

ing power, but it also enables one to wait, to bear, to veil under a quietude of manner a vast amount of reserved force.

Gentleness is one manifestation of this masterful self-possession. God's gentleness makes man great. It is not in the storm, the whirlwind, the earthquake, that men are soonest moved, but by the still, small voice. There is a place for Demosthenes and others whose style is noisy, violent and peremptory. Some men will only be moved by a coercive and defiant tone—austere, vigorous and Draconian; but they are few in proportion. A calm, unruffled, self-possessed speaker will sometimes carry an audience or a jury simply by his pacific and courteous air, in which there is no trace of embarrassment, no tinge of cowardice and no hint of fear. His strength is shown by his quietness and his assurance of success in his unpretentious methods. He represses in others the tumult which he has before smothered in his own breast, and wields, as it were, a mesmeric spell over their feelings and their acts.

The arguments of Phocion have been compared in power to the falling axe, which flies swift, sure and with relentless energy. It was imperious and merciless, dreaded like the yoke under which Romans were compelled to stoop, when conquered. A hopeless seige was often continued, simply because of this dreaded humiliation. Whately says that it is just so with some unwise logicians. Their links of logic are

strong as steel. For every wherefore there is a therefore, and they drive one to despair. They stand as an unfeeling parent, rod in hand, correcting a child. There is no pity in the eye, and no gentleness in the voice. The culprit finds himself defenceless and weak; submits outwardly, but nurses rebellion within. A single tear would have melted the icy obstinacy and brought the humbled creature to his knees in repentant obedience. Passion begets passion, and composure inspires confidence. Power is patient. Weakness frets and fumes. Anger is diverted and curiosity is awakened by the quiet, disguised movement of a self-possessed person. Love is sooner elicited from shrinking souls by those gentle indirections which such a one would naturally use instead of direct appeal. Hope, expectancy, belief, all the various emotions on which the master of men knows how to play, are quickened by the same unstudied, apparently careless ease shown by one thus self-possessed. As the contagion of fear is quickly spread, so the feeling of eager, wondering confidence is caught up by hearers and lookers on, where a masterful soul is the centre, an imperial power, self-contained, active, passive, enclosed or disclosed at will. It wields a control over others as complete in degree, as it is unpretentious in display.

As to the culture of this power, it hardly needs to be said that its use will enlarge its scope, and that it duplicates and reduplicates itself by exercise. Suc-

cess is a stimulus, and failure, too, is our best teacher oftentimes.

The field of discipline and growth is large. Men soon find their places. In some swarthy, vascular, vigorous natures there is what Emerson calls an excess of virility. "They illustrate the old meaning of courage: a plenitude of blood collected in the heart and arterial system. Others have cold hands, remain bystanders, or are only dragged in by the humor and vivacity of those who can carry a deadweight. Sickness is poor-spirited and cannot serve anyone. It must husband its resources to live. But health or fulness answers its own ends, and has to spare; runs over and inundates the neighborhoods and creeks of other men's necessities."

In closing a theme of which we have seen only the physical, manward side, I must remind you of the wide territory of spiritual truths into which we have not entered, belonging to the preacher rather than to the physiologist, to the religious, rather than the scientific side. Happy is that man who has both gifts and graces, earthly and celestial resources, who, when the world puts to him—as it does to all of us—the query the harlot put to Samson, "Tell me, I pray thee, wherein thy great strength lieth," may be able to say, "In Thee, O God, are all my springs. Partaker of the Divine Nature, and filled with the fulness of God, I CAN DO ALL THINGS!"

THE PERIL OF THE CITY.

Read January 29th, 1889, before the Manhattan Association, at Brooklyn, New York

The enormous disproportion in the growth of civic life, compared with rural, is a startling diagnostic feature of American society. Our cities, like sponges, suck up about one-quarter of our population to-day, as against a thirtieth at the beginning. Their growth is yearly accelerated.

The change of men's vocation, as well as their location, is a second factor in the peril we are measuring. Whereas 85 per cent. of our people were formerly engaged in outdoor pursuits, mainly agriculture or fisheries, now not half that number are thus employed. Mechanical pursuits swallow up the energies of our citizens. Every medical man sees the peril to general health in this massing of men, women, children—millions of them—indoors, often amid defective sanitary conditions and under a pressure of toil, clamorous and depressing.

There is also peril in the narrowing of individual activity to petty and monotonous details, such as

are incident to modern manufacturing activity, as where sixty men make sixty parts of a shoe, and eighty are busied in making a postage stamp. This specialization of nerve function is a sterilizing process to brain and soul. Workmen feel themselves dwindling under rotary, repetitious toil. Neurasthenia, intemperance and various sexual and social disorders stand related to this indoor, monotonous, joyless, unnatural life. Then, again, there are domiciliary features of city life also suggestive. The ethics of architecture are too often ignored by capitalists, for the statistics of certain tenement wards in New York City show localities as densely crowded as in China. "If you lived where I do, you, too, would drink," said a Glasgow workman to Chadwick, the English philanthropist, a remark that was an eye-opener to that afterward most patient and observant statistician.

But psychic contagion in our crowded cities is an element as definite and potential as sewer gas or typhus germs. Mental and moral aberrations come of contiguity and association as surely as fever and cholera. Health, purity, honesty and virtue are well nigh impossible under such polluting domestic conditions as Dr. A. T. Pierson has described, where, in one case, he found eighteen persons, male and female, black and white, old and young, lodging in a single room, 10 by 12 feet. The large percentage of citizens of foreign parentage—70 per cent. of the

population of this City of Churches, for example—the peril of the saloon and other evils complicate the problem.

But the diagnosis of a case is but preparatory to its treatment. How shall the church meet the perils that environ and jeopordize the souls it would save? How shall it link its life to the daily life of the people? How shall it send "help from the sanctuary" to the toiling, tempted thousands that need its helpful ministry? Plainly enough, the pulpit of Sunday and the one evening meeting during the week will not compass the end we seek. May we not learn something in method and spirit from our brethren in England? Seven summers there have taught me much. It has been my privilege to serve in five churches, Presbyterian and Congregational, one of them for months, in the aggregate. The latter has about 500 membership, conveniently classified under the appropriate supervision of seven deacons according to territorial location. This busy hive of workers is found in the midst of the surging millions of London, and is mainly made up of migratory bread winners. They appreciate the peril to which they and their neighbors are daily exposed, and lay their plans of church work with reference to this incessant pressure of danger, day and night, summer and winter, without an hour's let up. From the early gathering for prayer Sunday morning, to that of Saturday night at the close of the week, the house of God, through

the year, is almost all the time open in some part of its manifold appointments, Church, Institute, Schools, Restaurant, the Penny Bank, the Mothers Room, Band of Hope, meetings of Deaf and Dumb, warehouse clerks and other guilds and classes of workingmen and women, young and old. The 6,000 annual deposits made in the bank managed by this church, represent not only thrift and economy on the part of 900 depositors, but painstaking foresight on the part of the church. When I have met fifty mothers, gathered from humble homes in the Monday meeting, and talked to them on household economies, hygiene, motherhood, parentage and other themes of practical concern, I have felt the leverage which a well organized church may hold in the exigent affairs of a life full of peril and of promise.

As I have participated in the outdoor meetings held in the neighboring market-place and also held just outside the threshold of the sanctuary, or have entered the dining-room and reading-room where swarthy workmen meet each other, and meet members of the church which controls it; as I have seen the program of concerts, debates, lectures, and of the industrial exhibits in which the church has interested itself—contributions of its members, not omitting the embodiments of the pastor's skill in plastic art—I see how possible it is for a consecrated church to enter into, and possess the personal life, the

family and business life of the community in which its life is planted. The Infants' Friend and Dorcas Society, with active officers, the Sick Visiting Society, also organized, and the Christian Band, which works in great London thoroughfares and brings strangers to the sanctuary, are other agencies of this hundred-handed Briareus of the Gospel.

The point to which these suggestions and observations lead us is this: The more intricate and delicate the complexity of our modern civilization, the more elaborate, minute and sagacious must be those methods by which we reach our sympathetic endeavors to the millions that are struggling in the seething, surging maelstroms of city life.

Antique methods of warfare do not serve the demands of naval and military science to-day, nor will it do for the church to overlook the new conditions of our social life, and the newer lines on which we are to push aggressive action. Dangers indeed, hover like an electric cloud over our clustered cities, but many of these perils in themselves are compensative, directly and grandly so. Heaven, the sublime culmination of human society, is pictured, not as a rural retreat, but as a city, populous, radiant, busy, opulent, pure, secure. Let it be our aim to eliminate from our terrestrial civic life the elements that impoverish and imperil, and incorporate those which will make it a more worthy symbol of that which is to be satisfying and eternal.

NOTE.—It is not a mere incident or accident, that the close of the American Revolution should so nearly synchronize with the beginning of the French Revolution, for it would be easy to signalize factors common to both. We do well to recall the utterance of the First National Assembly of France, "Ignorance, neglect or contempt of human rights are the sole causes of public misfortunes and corruptions of government;" also the words of Mazzini, addressing the Italians, who wisely said, "We seek the kingdom of God on earth, and that society may be an endeavor after the progressive realization of the divine idea. Be such as Christ and His apostles, and you will conquer. Preach virtue, sacrifice and love. Be yourselves virtuous, loving, ready for self sacrifice."

The rule of the Master is the truest guide in social reform. The ominous signs in our municipal and national life urge a more thorough identification of the Christian church with the interests of the toiling poor, as an enlightening, inspiring and guiding power. These trenchant words of a pastor to a wealthy congregation in New York city, ought to be no longer true, "While wealth betakes itself to its elegant seclusion, and poverty gathers itself in appalling masses in its neglected and infamous haunts; while dishonesty is undermining the confidence of the community, and crime fills our households with horror, a dainty Christianity is looking on from a distance, afraid of soiling its hands in the work of social regeneration."

AMERICAN LIFE

AS RELATED TO INEBRIETY

Read in London, Oct. 4, 1887, before the Society for the Study of Inebriety.

At the International Congress, held in London, under the auspices of the Society for the Study of Inebriety, brief reference was made to certain factors which contribute to make the study of Inebriety in America specially serious and urgent. I have been desired to recall, record and expand those unwritten utterances. Novelty and originality they may not possess, yet old truths in a new light may be helpful to us in the interpretation of the pathological and psychological phenomena of this disease.

Although there are abiding factors the world over, in America we have elements to study which are peculiar and unique. By America is meant the American Republic, the states and territories bounded by the seas, the lakes and the gulf. It will be my aim to show that the sixty millions of this vast country are placed under those physical, psychic, political and social conditions which combine to make life more

vividly intense and exacting than anywhere else on this planet, and therefore are more susceptible to the malady of Inebriety.

This region has been called "The Intemperate Belt," because, as my lamented friend, the late Dr. George M. Beard of New York, has said, "Inebriety, as distinguished from the vice or habit of drunkenness, may be said to have been born in America; has developed sooner and far more rapidly than elsewhere; like other nerve maladies is especially frequent here. It is for this reason, mainly, that asylums for inebriates were first organized here." Here also the total abstinence societies of modern days began. Why? Because the abnormal nerve sensibility which the feverish rush of life here has developed, indicate a physiological condition that will not tolerate stimulants.

Dr. Beard says that it is a greater sight than Niagara, presented to a European coming to this land, to behold an immense body of intelligent citizens, voluntarily and habitually abstaining from alcoholic beverages. "There is perhaps no single fact in sociology more instructive and far reaching than this; and this is but a fraction of the general and sweeping fact that the heightened sensitiveness of Americans forces them to abstain entirely, or to use in incredible and amusing moderation, not only the stronger alcoholic liquors, but the milder wines, ales and beers, and even tea and coffee. Half my

nervous patients give up coffee before I see them, and very many abandon tea. Less than a century ago, a man who could not carry many bottles of wine was thought effeminate. Fifty years ago opium produced sleep, now the same dose keeps us awake, like coffee and tea. Susceptibility to this drug is revolutionized."

Dr. Beard makes the ability to bear stimulants a measure of nerves, and asserts that the English are of "more bottle power than the Americans;" that it is worth an ocean voyage to see how they can drink. A steamer seat-mate poured down almost at a swallow a half tumberful of whiskey with some water added. He was a prominent minister in the Established Church, advanced in years, yet robust. He replied to the query, "How can you stand that?" that he had been a drinker all his life and felt no harm.

The same relative sensitiveness is shown in regard to opium, tobacco, and other narcotic poisons. The stolid Turk begins to smoke in early childhood, when seven or eight; everybody smokes, men, women and little ones, yet the chief oculist in Constantinople says that cases of amaurosis are very few. A surgeon whom I have known, Dr. Sewny of Aintab, after years of extensive practice in Asia Minor, has yet to see the first case of amaurosis or amblyopia due solely to tobacco. But Americans cannot imitate Turk, Hollander and Chinese. Heart and brain, eyes, teeth,

muscle and nerve are ruined by these vices, yet the frightful fact remains that latterly the importation of opium has increased 500 per cent.! The "tobacco heart" and other fatal effects of cigarette smoking are attracting the attention of legislators as well as physicians, and the giving or selling this diminutive demon to youth is made in some places a punishable offence.

Physical, psychic, political and social conditions combine in the evolution of this phenomenal susceptibility. Nowhere, for instance, are such extremes in thermal changes. I have seen in New England a range of 125°, from 25° below to 100° above, in the shade. The year's record at Minnesota reads from 39° below to 99° above, a range of 138°. Even within twenty-four hours, and in balmy regions like Florida, the glass has shown a leap from torrid heat to frosty chill.

No wonder, then, that the greatest fear of some is the *atmosphere!* They dread to go out to face Arctic rigor or tropic fire, and so get in the way of staying indoors, even in exquisite weather of June and October. They make rooms small, put on double windows, with list on the doors, and build a roaring furnace fire in the cellar, adding another of bright anthracite in the grate. The difference between this hot, dry, baked air within and the wintry air without is sometimes 80°. It is estimated that the difference of temperature inside and outside an English home averages

20°, and that within and without an American dwelling is 60°. The relation of this to the nervousness of the people is apparent.

The uniform brightness of American skies favors evaporation. The Yankee is not plump and ruddy like his moist, solid British brother, but lean, angular, wiry, with a dry, electrical skin. He lights the gas with his fingers and foretells with certainty the coming storm by his neuralgic bones. Hourly observations were conducted for five years with Capt. Catlin, U.S.A., a sufferer from traumatic neuralgia in care of Dr. Mitchell. The relation of the prognostic pains to barometric depression and the earth's magnetism was certified beyond doubt, and was reported to the National Academy of Science, April, 1879. Even animals, in the Sacramento valley and on the Pacific coast, are unwontedly irritable while the north desert winds are blowing, and electricity, seeking equilibrium, is going to and from the earth. Fruits, foliage and grass, towards the wind, shrivel. Jets of lightning appear on the rocks and sometimes on one's walking stick. ("American Nervousness," p. 147.)

But psychic and social factors cannot be ignored. Someone has said that insanity is the price we pay for civilization. Barbarians are not nervous. They may say with the Duchess of Marlborough that they were born before nerves were invented. They take no thought of the morrow. Market returns and stock

quotations are unknown; telephones and telegraphs; daily newspapers, with all their crowded columns of horror and crimes, are not thrust upon them; and the shriek of the steam engine does not disturb their midday or their midnight sleep. Once a day they may look at the sun, but they never carry watches. This bad habit of carrying watches is rebuked by a distinguished alienist, who says that a look at one's watch when an appointment is near, sensibly accelerates the heart's action and is correlated to a definite loss of nervous energy. Every advance of refinement brings conflict and conquest that are to be paid for in blood and nerve and life. Now it is true that watches are occasionally seen in England. Sun-dials are not in constant use in Germany and Switzerland. But the "American Watch" is an institution. Not the Elgin, the Waterbury or any particular watch, but the worry and haste and incessant strain to accomplish much in a little time—all this, symbolized in the pocket time-piece, is peculiarly American. It was an American, who, at Buffalo, I think, wanted to wire on to Washington. When told it would take ten minutes, he turned away and said "I can't wait." He now uses the Edison telephone and talks mouth to mouth with his friend. Dr. Talmage says "We are born in a hurry, live in a hurry, die in a hurry and are driven to Greenwood on a trot?" The little child, instead of quietly saying to its playmate, "Come," nervously shouts, "Hurry up!" You cannot approach

the door of a street car, or railway carriage, but what you hear the same fidgetty cry, "Step lively!" Said a New Yorker to me, "I am growing old five years every year." Can such physical bankrupts, whose brains are on the brink of collapse, bear the added excitement of drink? The gifted Bayard Taylor was but one of thousands who burned a noble brain to ashes in a too eager race of life. Reviewing sixteen months, he notes the erection of a dwelling house, with all its multitudinous cares, the issuing of two volumes of his writings, the preparation of forty-eight articles for periodicals, the delivery of 250 lectures, one every other day, and 30,000 miles of travel. The same story might be told of other brain-workers who never accepted the "gospel of rest."

The emulous rivalries of business life and the speculative character of its ventures cannot be paralleled elsewhere. The incessant strain they impose increases mental instability. Bulls and bears, pools, corners, margins, syndicates and other "ways that are dark, and tricks that are vain," represent the omninous passion for gambling. Millions may be made or lost in a day. No one is surprised if a Wall Street panic is followed by suicides. Legitimate business may, by its methods, exert a pernicious influence on the nervous system in still other ways, as for example, in the depressing influence from specialization of nerve function, as indicated by Dr. J. S. Jewell, where one keeps doing one petty thing monotonously

year after year, and so sterilizes mind and muscle in every other direction.

Turning to Educational systems in America, we see how unphysiological they are, and calculated to exhaust the nervous energy of youth, many of whom have inherited a morbid, neurotic diathesis. Of twenty-seven cases of chorea reported by Dr. Wm. A. Hammond of Bellevue Hospital, eight—about one-third—were "induced by intense study at school." Dr. Treichler's investigations as to "Habitual Headache in Children," cover a wide field, and show that continental communities suffer from similar neglect of natural laws. Here it is more notorious.

Not to dwell on these points, we may say that the stimulus of liberty is a productive cause of neurasthenia in America. It is stated that insanity has increased in Italy since there has been civil and religious liberty guaranteed. A *post hoc* is not always a *propter hoc.* But it is obvious that the sense of responsibility which citizenship brings; the ambitions awakened by the prospect of office, position, power and influence; the friction and disquiet, bickerings and wranglings, disappointment and chagrin that attend the struggles and agitations of political life, do exhaust men, and more in a land where opportunities for advancement are abundant, as in America. While writing these words, news are received of the sudden death of a prominent New York politician, comparatively young, directly traceable to disappointment in carrying out

a scheme on which his heart was set. Chagrin acted like a virulent poison on a system already unstrung by the severe political struggle in which he was defeated. Multitudes contract the vice of drunkenness, or develop the full malady of Inebriety, under the continued pressure of these political campaigns. The patient of a friend of mine had, for two years, been kept in working order. He was living, however, on a small reserve of nerve force. A few days before election he was drawn into a five minutes' eager discussion and became entirely prostrated, more exhausted than by months of steady work.

Others nations have their measure of liberty and aspirations for social and political eminence to gratify. But nowhere have men the exhilerating possibilities of position, wealth and influence, that this republican community offers. The history of the last half century, as related to this fact, reads like a romance. But liberty, like beauty, is a perilous possession, and it has been truly said "the experiment attempted on this continent of making every man, every child, every woman an expert in politics and theology, is one of the costliest of experiments with living human beings, and has been drawing on our surplus energies for one hundred years."

Finally, American life is cosmopolitan. A curious observer noted nine nationalities in a single street car in New York, one day. I repeated the fact to a few of my students who were riding with me through

those same streets. Looking over the ten or dozen passengers on board, one of them at once replied, "Well, there are *five* nationalities represented here."

In one aspect, these importations, particularly English, German and Scandinavian, are compensative and antidotal. We may hope, with the author before quoted, that "the typical American of the highest type will, in the near future, be a union of the coarse and fine organizations; the solidity of the German, the fire of the Saxon, the delicacy of the American, flowing together as one; sensitive, impressible, readily affected through all the avenues of influence, but trained and held by a will of steel; original, idiosyncratic; with more wiriness than excess of strength, and achieving his purpose not so much through the amount of his force as in the wisdom and economy of its use."

This hope may be realized in the future, and in the highest type of American manhood. It is a bright, optimistic view of things, but we have to do with the present, and the evils of society as they now exist. We have to face the fact that our civic life is growing at the expense of the rural; that our cities are massing people by hundreds of thousands, among whom, on the grounds of contiguity, association and psychic sympathy, evil influences become more potent to undermine the welfare of society; that we have to encounter in America the drink traffic in its belligerent aspects, as nowhere else, not only politically and

financially organized most thoroughly, but ready to use fraud, violence or assassination if other means fail, and that we have anarchism stirring up discontent and firing the passions of the desperate classes, who understand liberty to mean license, equality to be the abolition of all the diversities of position and property which intelligence, temperance and industry have made and will make to the end of time.

We have had a practically unrestricted importation of the refuse population of Europe. Of every 250 immigrants one is insane, while but one of 662 natives is insane. Add to these facts the conditions of American life already enumerated as related to the development of neuroses, particularly Inebriety, and we have material which makes the study, as was stated at the start, serious and urgent. Some of us are studying the matter historically and philosophically; some, in the asylum, clinically; some of us, in the dissecting room and laboratory with scapel, microscope and reagent. Writers like Dr. T. L. Wright and Dr. T. D. Crothers are illuminating the subject in its pathological and psychic relations. We have more to learn about Heredity and Environment; more about the Physical Basis of the Will, and its disintegration through disease and wrong doing; more about Inheritance of ideas, Mental Therapeutics and kindred themes. To the discussion of topics like these, the New York Academy of Anthropology has devoted attention, and I close this paper by inviting the in-

dividual co-operation of my English friends in a work alluring in its features, humane and beneficent in its fruits.

NOTE.—The President [NORMAN KERR, M. D., F. S. L.] gave cases observed by him twenty years ago in America, illustrative and confirmatory of the truth of DR. THWING's propositions, and enlarged on the physiological, psychological and climatological factors in the determination of the higher intensity of Inebriety. [*Transactions*, November, 1887.]

The London representative of the *New York Herald* sent an account of this paper by cable, and spoke of the interest it had awakened. The Quarterly published by the American Society for the Study of Inebriety, of which Dr. T. B. Crothers, Hartford, Conn., is editor, republished it, and also the Medico-Legal Society, New York, before which it was read. Professor Paul Kowalewsky, M.D., of the University of Kharkoff, Russia, quotes from it in his new volume, "IVROGNERIE, *ses Causes et son Traitement*," Page 58.

VOCAL AND MUSICAL CULTURE IN AMERICA

Read May 8, 1888, before the Society of Science, Letters and Art, Addison Hall, Kensington, London.

The conditions and possibilities of Art in America suggest a fruitful and attractive theme. For many years the writer has been busy in the line of Vocal and Rhetorical culture in institutions widely scattered. He as had opportunity to note the modifying influences exerted on speech and song. It will be the aim of this brief paper to name them in order, and then to offer a few suggestions as to the possible development of this department of Art in America. The influences that retard or accelerate may be characterized as physical and climatic, social, political and moral. These express themselves in American life with increasing distinctness every year. They stamp themselves on character and thought with conspicuous clearness.

1. Notice the Intensity of American Life. This results in part from electric and climatic conditions

which cannot now be analyzed. Climate to a country is well compared to temperament in the individual—his fate. The slant of the sun dooms one zone to Arctic frost and another to torrid heat, and so the angle of our mental life, the way we look at things, imposes on us our destiny. The heart beats faster in New York than in London, and faster still in Western altitudes. There are other influences besides thermal changes and electric conditions of the atmosphere which contribute to restlessness and impatience of Americans. This velocity and momentum of life are prophetic of evil as well as factors of success. Speed is a good thing, but safety is better. Push and zeal are valuable, but thoroughness is more important. The application of this one feature of life to business and to education might occupy our thought at great length. No one knows the tremendous strain put on heart and brain by "the spirit of the age," as this merciless tyrant is called. It is seen in the hurrying, forcing system of education; in the short cuts into professions; in the multiplication of summer schools and universities, to which already overworked teachers repair to learn Hebrew, discuss philosophy, and study natural sciences; in the extension and popularity of the lecture system, distinctively an American idea, and in other ways that need not be signalized.

2. Not to dwell on this feature, we may add the Practicalness, the utilitarian character of American

life. We are not only audacious, venturesome, fond of big things, but shrewd, adroit and calculating. "Will it pay?" is the crucial test to which everything is put. The calculating shrewdness of the typical Yankee is still a dominating force in the central and frontier States, though he has largely disappeared from his own New England. The necessities of a new and colossal empire of amazing dimensions and capabilities, have made him awake to the importance of the coarse arts, rather than the fine arts. But latterly, particularly since business recovered from the effects of the Rebellion, streams of wealth have flowed into the repositories of art and schools of learning. It is seen to "pay" to liberally endow universities and enrich art galleries. A new and brighter era is now opening in this direction. This suggests,

3. The Flexibility of American life, its power of adaptation to varying exigencies, social and national. This is to be expected in a free democracy where there is no fixed stereotyped way of doing things, as in monarchial communities where the iron sway of precedent keeps everything "as it was in the beginning, is now, and ever shall be, world without end." New ideas are not necessarily revolutionary, but government, business and social customs are gauged by common sense and present needs.

Once more, the Cosmopolitan character of American society is a modifying influence of great importance. The insular prejudices and contracted ideas imported

from other communities very soon melt in the coalescence and fusion of the many varied and vigorous elements that are nourished and assimilated in this Republic. This also stands related to the growth of art, literature and religion. It will, indeed, require a vigorous digestion to assimilate so many heterogeneous elements and preserve any individuality and integrity of existence. But the fact remains, and with that alone are we at present concerned. Now, in a few particulars, let us apply these considerations to the development of Musical and Rhetorical culture.

As to oratory. We should expect to find orators in a country with such physical features, climatic conditions, and political history. Such is the fact. From the days of Patrick Henry and other orators of the Revolution, America has had, till now, a splendid succession of eloquent men in the pulpit, the senate, the bar, and the forum. Webster, Clay, Calhoun, Everett and Choate have passed away from political circles, as Beecher and Gough from pulpit and platform, but the times will create others. We need not argue the fact, we only note certain features, of American eloquence.

1. We should expect impassioned utterance. It is so. The typical speaker is apt to be florid in style, positive in tone, and free in gesticulation. An eminent physician and psychologist says, "American oratory is partly the product of American nervousness. For success in the loftier phases of oratory, fine-

ness of organization, and a touch of the nervous diathesis are essential. Delicacy of organization united with Saxon force makes America a nation of orators."

2. Independence of character, nurtured by a republic where there are no titled or privileged classes, expresses itself in the tones of voice and inflections, even in ordinary conversation, yes, in one's "*walk* and conversation." The writer has dwelt on these points in his volume, "Drill Book in Vocal Culture," to be found in our library, and need not expand the idea at this time. The speed of speech and pitch of voice are diagnostic. The influence of easterly winds, catarrh, phthisis, particularly in the Atlantic States, and of certain dietetic transgressions as related to vocal purity, are considered in the same connection.

Once more, ecclesiastical architecture modifies pulpit elocution. Cathedrals, and long, narrow sanctuaries, built for processional and other spectacular purposes, are unfit for teaching or preaching. Americans are introducing the semi-circular style into their audience rooms. Again, the extemporaneous prayer and unwritten discourse render impossible the sing-song and the drawl which are cultivated in some established churches. The growth of the lecture system, before alluded to, tends to encourage a natural and colloquial style of delivery, ease of movement on the part of speakers and a friendly interest on the part of audiences. The old New England "town-meeting"

and the everywhere popular camp-meeting, with its out-door speech and song in the forests, along the lake side, and the sea, are American institutions that have had, and are still having a palpable influence in fostering what is peculiar in American vocal art.

Of late years the continental conservatory system of musical and elocutionary instruction has done much to elevate the tone of culture and to give promise of future progress in musical art. Musical conventions, continued for several days for the purpose of instruction and practice, and the introduction of teachers of music among the millions now in the public, free schools of America, and the advance of the tonic-sol-fa system, all point to a fruitful future.

To realize the best results we must aim at a popular culture. Music is not to be monopolized. Like the air, whose vibrations create it, it ministers to all. "The wind that rushes through the organ of St. George's Chapel, at Windsor, has first passed through the barrel organ of some poor Italian boy. The voice of Jenny Lind and that of the street singer, have but one common capital to draw on, the unsectarian, catholic atmosphere, the failure of which would be the extinction of a Handel, Haydn or Mozart." America presents a fine field for such popular development of vocal and musical art. Extravagances and crudities can be occasionally tolerated, as our cannon jubilee concerts, where 10,000, even 20,000, singers and players have had their music punctuated by the ex-

plosion of field pieces outside the Coliseum. These sensational entertainments give an impulse to musical education.

An early culture is another requisite. The practice of song should be contemporaneous with that of speech. In the family and school a taste can be early fostered which may be an initial step in the path of future eminent success.

Finally, to subserve the highest ends of vocal art, it should be a Christian culture we aim at. Especially is this the imperative duty of the Anglo-Saxon race, whose regnant influence in the world's civilization is everywhere recognized. In America, above all, where life is so vehement and intense; so cosmopolitan and mixed, yet where there is such freedom and elasticity, the power of adaptation to changing conditions, and where the supremacy of English thought is still unquestioned; this yet new and formative civilization is a field for the development of art under most promising conditions.

In securing this end, her educators gladly welcome the alliance of their elder brethren across the sea. Offspring of a common stock, inheritors of a common language, literature and religion, and custodians alike of those priceless principles which are the world's only hope, we are glad to join hands in effort as well as hearts in sympathy and minds in council. In all that refines and exalts humanity, in religion, law, philosophy, science and art, poetry, music and

eloquence, our earliest lessons have been learned together of one common Mother. May our only contention and rivalry in coming years be this, each to surpass the other in giving to the world the wealth of wisdom so richly received from her royal hand.

NOTE.—The SOCIETY OF SCIENCE, LETTERS AND ART, OF LONDON, organized 1881, for the promotion of sound learning, urgently invites the co-operation of all scholars in their work, by correspondence, membership, contributions of original articles, books, scientific and bibliographic data of all kinds. Address DR. E. A. STURMAN, M.A., F.R.S.L., 160 Holland Road, Kensington, London, W.; or PROF. E. P. THWING, M.D., PH.D., 156 St. Marks Avenue, Brooklyn, N. Y., Resident Fellow.

American students, whose examinations are conducted by a Fellow of the London Society, will receive its certificates, or medals in silver or bronze, if their papers reach the required standard. [Copy of Gold Medal Award] "This is to certify that, at the ordinary meeting holden on Oct. 18, 1887, at Addison Hall, Kensington, SIR FRANCIS KNOWLES, Bart., D. C. L., F. R. S., in the chair, it was unanimously *Resolved*: That the Society's Medal for Literary and Scientific Merit be awarded to PROFESSOR E. P. THWING, M.D., of Brooklyn, U.S.A."

THE WORKS OF CANOVA.

A UNIVERSITY THESIS.

Presented by the author in his final examination in Philosophy and Fine Arts for the Doctrate of Philosophy.

Thomas Carlyle has truly said that "it is essential to right judgment on a man or his works that we see his good qualities before we pronounce upon his bad." Many a hierophant of art ignores this canon of criticism. The interpreter of her mysteries needs a clear vision and a candid heart. The Florentines, in the days of Galileo, were challenged by him to look through his telescope and see for themselves the satellites of Jupiter. Knowing well that this would furnish contributary, if not conclusive, evidence to support the "heresy" of Copernicanism, they refused to look. So, when the signal for recall was flung out at Copenhagen, Nelson, led by a sublime prescience of victory, refused to look at the order, and only turned his blind eye thitherward. He could therefore evasively say, "I looked and saw no signal." Like Nelson, there are censors who carry with them a blind

eye for the inspection of what they have already prejudged. As one has said, "Their pens are poniards, and their inkstands fountains of detraction." They seem to think that one can only validate his claim to be a reviewer by severity of censure, whereas candid criticism involves commendation as well as complaint, an open eye for beauty as well as for blemish.

With this initial thought in mind we come to the consideration of the works of the illustrious sculptor, Antonio Canova. The writer takes up the theme which has been assigned to him with deep satisfaction, for it is not wholly foreign to his thought and observation. During frequent visits abroad he has lingered before the productions of antique and modern art as seen all over Europe, from the Hermitage of Catherine in Russia to the Royal galleries of Madrid, and noted the impressions made by their most conspicuous examples. On a visit made to the grand basilica of Rome in 1879, it was not the imposing facade of St. Peters', the noble colonnade, the lofty dome above, or "the frozen music" of architecture below, that held him entranced, so much as it was a kneeling figure in marble by Canova, that lighted up the dusky shadows of that sacred spot as with a vision of the skies! This figure and this name, alone found record in his notes of the garnered wealth of centuries in that treasure house of art. He could adopt the language of that eminent critic, Joseph Forsyth, "I saw some admired pictures, but

none that left any impression on me. The only Venetian artist that could impress my soul, or awake its affections, is CANOVA. All the artists in Rome yield the palm to Canova."

HIS LIFE.—The years 1757 and 1822 mark the boundaries of his toilful and productive life. He left his early home, under the shadows of the Venetian Alps, as an orphan, to study first with Pasino, a kinsman, and then with Gio Ferrari, a pupil of one of the best Venetian sculptors. He executed, when but thirteen years of age, two works in marble, representing baskets of fruit, which are shown in the Farsetti palace. Two years later his "Eurydice" was completed and was at once followed by his "Orpheus." In 1780 Canova began work at Rome. He was aided for three years by a pension from the Venetian senate. "Theseus," "Apollo" and "Psyche" elicited hearty encomiums, even from the most exacting critics. Onward from this time he toiled with growing zeal, proof of which is had in the fact that, in twenty years, he had completed more works than many sculptors have executed in a life time. The incessant strain told on his health. The use of the *trapano* pressing on his chest is believed by the Countess of Albrizzo to have originated the disease, cancer of the stomach, to which he finally yielded. A temporary sojourn in Germany gave him relief and an opportunity to study Germanic art. He went to Paris in 1802 to model the portrait of Bonaparte.

The colossal marble statue was taken to the banks of the Thames, and a bronze copy went to Milan. Bonaparte was no less pleased with Canova's personal qualities than his artistic, and allowed him great freedom of speech, more than to his own marshals. Asking him why Antonius Pius had so many busts everywhere, Canova replied that he was a sovereign with so many virtues that everyone loved him.

Summoned to Vienna to place the sepulchre of the Archduchess Christina in the Church of the Augustines, he increased his fame already widely spread. In 1815 the Roman government appointed him to superintend the removal of works of antique art from Paris to Rome. The opposition was great. He was even threatened with assassination. His quiet resolution prevailed, and the work was done in a week. The Pope made him Marquis of Ischia and settled a pension of 3,000 crowns annually. He returned thanks for the honor and reward, but said that he had always supported himself by his own labor and would therefore devote this sum, as he did, to the education of students in the Academy of Sculpture at Rome.

In the last years of his life he planned to erect and adorn a church edifice in his native town at the expense of $60,000. He died before its completion, at Venice, Oct. 13, 1822, at the age of 64. His departure was peaceful. Those who moistened his dying lips caught these last words, as of invocation or of solil-

oquy, "*Anima bella e pura!*" "Pure and lovely spirit." He passed away without a struggle. His visage remained radiant and expressive, "as if his mind was absorbed in some sublime conception; an appearance that created a powerful impression on those who stood about him." Fabre's portrait makes his face one of strong yet pleasing features, with broad forehead, beaming eyes, shaven lips and cheeks, curly hair and animated expression. He was never married, but wholly devoted to his art. He was frugal, regular and temperate; benevolent to poor artists, their families and orphans; modest and gentle in his bearing, full of natural urbanity. Though petted and praised by the great, and decorated by imperial patrons, as well as honored by the leading societies of Europe, he was not puffed up, but bore his honors with grace and amiability.

He wrought with method and assiduity, first outlining his thoughts on paper and then sketching his work in clay or wax, finally transferring the figure to a full-sized model. While at work, Canova would have some one read to him. He thus made himself not only proficient in Italian literature, but in the classics. Polybius and Tacitus were his favorites.[1] Canova's own speech was like that of Nestor, as described by Homer,

> "Words, sweet as honey, from his lips distilled."

In his first lecture before the Royal Academy, after the death of Canova, Sir Richard West remarked

that Italy could not justly call him hers alone. "All Europe justly claims the kindred, and acknowledges the loss," for it was Canova who emancipated Italy from the fantastic conceits and exaggerations of the Bernini school, replaced sculpture on its proper basis and was the true restorer of legitimate art." Sir Richard admits that Canova sometimes seduces us by the luxuriance of his execution rather than by originality of invention, and erred in exalting finish and technical details above real breadth and nobility of form. The *morbidézza*, wantonness, softness, was occasionally heightened by reddening the lips and cheeks, as in his Venus and Sleeping Endymion, "a meretricious and dangerous innovation, happily not received with favor." These, however, were excrescences which were not characteristics, for he ordinarily showed that he felt what belonged to the dignity of art, and he was, as Sir Richard adds, "simple in arrangements and sparing in ornament, so that the eye should not be distracted by the pomp of extravagance or unnecessary matter." His faults were venial-says that sharp critic, John Flaxman. "His genius added lustre to his own age, while his wisdom commands the admiration of succeeding ages." He is most perfect who has the fewest faults, for absolute perfection is not attainable. In Canova, this English critic extols the grace of his figures, the strength of muscle, the soft, yielding appearance of the flesh and the power and delicacy of execution throughout.

His Works.—We shall now pass in review some of the more notable figures and groups of this sculptor and study their salient features. It is well ever to keep in mind that temperament, as well as prevailing tastes, will shape our judgment. Artist and critic alike come under this law. Schiller and Goethe, Michael Angelo and Raphael, Velazquez and Murillo are not more unlike than are their censors. What one delights in, only disgusts another. National bias, provincial tastes and mercenary views also help to shape criticism. Americans are fond of amplitude, strength and brilliancy, forgetting that a big thing is not necessarily a great thing, and that sensational themes in art, as well as in oratory, may so far dazzle the senses as to blind them to poverty of design and inanity of feeling. It is Jarves who somewhere points out the danger coming from our prejudices, from fashion and the materialistic temper of our age and our pursuits. He shows how these mislead in art. They doubtless misled Canova. His works should be viewed in the light of his times. Loyalty to nature and the enthronement of a moral purpose were then, and are now needed as regenerative elements. No scenic devices can cover the lack of an inward principle. Without it artists will only aim to please, and stoop to what Ruskin calls "slop work, conventional dulness, cookery, Peter-Parley style and infant school drawing." The sweeping censures of Ruskin are comparatively harmless on account of

their exaggeration. He calls Raphael hard names, and sneers at his "vapid fineries," the "tasteless poison of the art" of the prince of painters. So Jarves calls Canova "the chief of classic pedants, who presume to act as plausible guides to the antique, but mislead our conceptions of it."

Now it is barely possible that the æsthetic culture of these gentlemen may have been developed at the expense of other instincts. Our deepest life is justly regarded as inarticulate, and when an artist can touch that, he is master. A connoisseur may sit in judgment as to criticial details, while he narrows his imaginative and emotional capacity. "The eye sees all that it brings power to see," says Carlyle. Béranger tells of a prisoner who, gazing into the embers of his expiring fire, sees a floating wreck, a flying eagle, with other pyrotechnic beauties that his fancy formed. Victor Hugo in one of his romances tells of Grin-goire, who saw star-worlds in fire sparks as they sprinkled the sooty chimney back. He would sit for hours enjoying the visions and the reveries awakened. The undefinable in art refuses to be bounded by the canons of intellectual criticism. The imagination alone penetrates this territory. Poetry and music minister to the inarticulate life and why should not sculpture?

Writing of the nude in marble, Canova says, "It should express itself only in the most choice and beautiful forms, with the most noble and attractive

graces that nature or an inspired fancy can supply." He remarks that nature has every variety of perfection if we know where to find it, and urged his pupils to infuse life into their studies from the living form. No wonder that an Englishman in Canova's studio at Rome exclaimed, as he approached a marble nymph, "What a pity she cannot speak!" The artist modestly replied that he did not aim to deceive the beholder by making marble seem to be flesh, for were it so, "it would be no longer admired as a work of art and the skill of the artist would be unnoticed. I would excite the fancy only and not deceive the eye. I am content if it is felt that I have subdued in some degree the stubborn material by my art, and made it approximate to the life." A merely cold form gave him a death-like chill, he said, and so he aimed to "add mind to it, to borrow from inspiration that nobleness of life which I want." He said that he did not satisfy himself, and saw it was impossible to satisfy his critics, by whom he was "pulled in pieces."

The most merciless of them admit the exquisite finish of his marbles, the grace of contour and pose, but seem to think that Canova could only express prettiness and affectation, feminine charms and gentle movements. We will therefore instance the group "Hercules and Lichas" as an embodiment of terrific power and rage. Maddened by the poisoned vest brought by the youth sent by the Ætolian princess, Hercules dashes the messenger into the sea from the

summit of Æta. The attitude of the hero as he clenches him by the hair and the foot; the physical suffering and the towering rage expressed, and the fright of the innocent victim swung in air—instinctively clutching for protection to a sacred altar as his inverted body is poised an instant before it is hurled like a stone from a sling—all present a harrowing picture to the eye.

"Creugas and Damoxenus" is another piece of sculpture into which Canova throws the tragic element. These two Sicilian boxers had consumed a whole day in boxing. They agreed to give each other a final blow without flinching. Creugas first struck his comrade on the head. Damoxenus then unfairly extended and stiffened his hand, and gave a blow with his hard, horny nails on the side of Creugas. It came with such fearful violence as to cut through his bowels, which Damoxenus tore out of the dying man. The record Pausanias gives is too revolting to dwell upon, and the story in marble is not a pleasant one to inspect, although the sanguinary features are not revealed, for the sculptor chose to picture the pugilists the instant before the fatal blow falls. The brutal character of Damoxenus is shown in his figure, attitude and facial expression. The face of Creugas propitiates us in his favor. We are glad to know that his murderer was driven into perpetual exile.

There are some minds that relish the rueful, sullen and even sickening scenes of life, but the remark of

Chadwick is hardly just, that "modern art has a predilection for the painful and horrible," as of old, when John of Pisa sculptured "devils who leer and writhe and crunch and tear," and others multiplied crosses hung with "green and macerated Christs." It is true we have had Rembrandt Peale and his "Court of Death," and not a few ghastly pictures by Doré, but these productions are no more typical of modern art than are our comic papers representative of the prevailing temper of the age. Canova, like Raphael, preferred to minister to the emotions that enliven and cheer rather than to those that awe or depress. In one of his essays he says that those works of real merit that affect us, do so, not by the beauty which satisfies our critical instinct, but by that which captivates and subdues the heart, awakening tenderness, joy or sorrow. Canova's *ozii suoi* (his recreations) were delineations of female loveliness, often voluptuous and fascinating, not to say wanton, yet avoiding the extravagance and license of the imitators of Angelo and Raphael. He well understood the mechanical conditions of his art. He saw that the dull tints of stone, the greenish hue of bronze and the luminous brightness of alabaster and marble have each a different feeling. The material affects the work and our conception of it. The location also. If his work were to be placed in the light, and near the beholder, Canova saw that it would require one kind of treatment; if far above the eye or

in a shadowy recess, other principles would apply. The matter of drapery, too, was a study with Canova. As words are the attire of thought, and come to our ears as a beggar or a prince comes to our door, so he knew how to dignify or debase, how to soothe and charm, or shock and anger by the drapery of his subjects. Its fineness or coarseness, its freedom or rigidity, its simplicity or its grotesqueness, its historic truthfulness or absurdity, are points which he carefully studied. He evidently wet the drapery of the model as other artists did, to show the form as revealed by bathers on the beach. This is noticeable in the figure of Hebe, whose robe, knotted at the waist, descends as light and tenuous as a cloud about her person, the outline of which is not obscured by the transparent envelope. His use of corrosives to give peculiar finish to the marble, has been criticised as finical and pretentious, but why is it any more objectionable than the device of a wet model?[2]

There is, of course, peril in all these manipulations and devices in which these masters of sculpture indulged.[3] When we look at the neat sandals and smoothly laid curl on the cheek of the rough fisherman that had toiled all night in the slimy shallop, as represented in Raphael's "Charge to Peter," or gaze on the insipid languor of some of Fra Angelico's "fleshless angels, boneless saints and bloodless virgins," though painted by the "St. John of art," we see how the greatest genius may sometimes repeat

the folly which Shakespeare signalizes—in King John, Act IV., Sc. 2—and attempt

> "To gild refined gold, to paint the lily,
> To throw a perfume on the violet,
> To smooth the ice, or add another hue
> Unto the rainbow, or with taper light
> To seek the beauteous eye of heaven to garnish."

Sometimes this prettiness is proof of inanity, sometimes of ambition, but often of an unworthy condescension to uncultivated judgments, such as a popular preacher once confessed to, when his methods were criticised by a friend, "We should doubtless agree in the matter of taste, but then, *I know my crowd!*"

Canova's "Hebe" at Berlin and "Psyche" at Milan are among his best works. They show his skill in modelling and fineness of touch; the felicity and grace of motion and gesture, and the refinement of nature of which these forms are indices. The celestial Psyche and the languid softness of Cupid are finely contrasted in the erect attitude of the one and the yielding inclination of the other. The drapery of Hebe, pressed against her person, suggests more of delicate beauty than the nude figure. It calls to mind the sonnet of Ippolito Pindemonte:

> "Whither, celestial Hebe, dost thou stray,
> Leaving the banquet of eternal Jove?
> Deign'st thou to change the radiant fields above
> To tread earth's dark and ignoble way?
> Immortal sculptor! who do'st yet outvie
> Italian art and reachest Attic grace,
> Life's soft and breathing aspect thou couldst trace;

In sculptured motion cheat the wond'ring eye.
Back from that form on which entranc'd we gaze,
Her vestments seem to flutter in the wind,
Buoyant in many a graceful fold behind;
While Nature's self, whose law the world obeys,
Deceived by mimic art, believes a stone
With motion gifted, swiftly passing on."

The statue of Palamades tells another story of Grecian life and art. Socrates is said to have singled out this hero and martyr as one whom he hoped to meet in the future life, for he was a man of wisdom, rectitude and purity, a man whom his country unjustly condemned to death. These virtues seem to speak forth in the serene repose and dignity of his erect and pliant form. Soon after the completion of the statue, while Canova stood by it, its support gave way. The marble figure fell and was broken in many pieces, very nearly involving the artist himself in destruction. A fine engraving by Henry Moses is preserved in Canova's life by Count Cicognara [H. G. Bohn, 1849, London.]

In executing this work he anticipated what Dr. Knox of the French Academy has since said, speaking of schools of art, "There is but one, that of Nature, though to read her volume profitably one must study Greek and Italian art, and so learn to wisely follow nature in inward structure and outward form; in her intentions as well as in her forthcomings. Merely to imitate the highest art is mannerism, while to attempt to improve on it is sure to result in caricature and failure."

The Bernini style of a previous century showed a lack of conscientiousness; it was naturalistic, sensational, passionate and ostentatious. Jesuitism sought to attract the gaze of the curious by the glowing ecstacy, shown in their altar pieces, and by other forms of spectacular seduction. In the beautiful forms of Correggio, there are seen germs of this degeneracy. Canova did much to reform plastic art from the maudlin and sensual temper which had, before his day, so widely prevailed. That he should occasionally fall into the theatric mannerism of his predecessors is not to be wondered at. But viewing him as a reformer, whose aim seemed to be to introduce a purer and more healthful life, we can overlook his blemishes and at least commend his purpose. In his "Clement XIV." he "touches a genuinely plastic key," says Lûbke, and shows "earnestness and dignity. Clement XIII. is nobly conceived, with serious simplicity and solemn repose. We are transported to a purer atmosphere." His fertile fancy and his graceful touch are seen in the accessories of this last named tomb in St. Peter's. The crouching lions that guard the entrance are admirably executed.

His "Religion" and "Pieta," wrought for the church he built for Possagno, show him not only "Instinct with active thought and moved Parnassian dreams," but filled with something of Christian sentiment as well, although it is easy to find fault with the somewhat pretentious robes and halo about "Religion."

It awakens the same feeling when we look at Canova's "Washington" sitting as a Greek hero. The Stuttgart professor, Dr. Lübke, justly says that men of our time should wear our garb and not an antique. They should in marble appear in the form and attire in which they have moved before in.

The "Graces" of Canova are praised by those who delight in naked, languishing female beauty, but they cannot be expected to command general admiration. Tastes divide here. Some statues secure almost unanimous applause, for "they denote a foregone conclusion," as some one has said of the pictures of Nicolas Poussin, "the Milton of painters," as Hazlitt regarded him. Every one is charmed, excepting now and then an imbecile, such as strayed into the British Museum one day. Seeing the interest that the remains of the Greek Parthenon were exciting in the minds of beholders, he ventured to ask a gentleman what there was remarkable in those marbles. The enraptured admirer of the Elgin marbles, as if unconscious of the interruption, and only thinking aloud exclaimed "Lifelike!" "Lifelike—well—what—of that?" drawled out the booby in broadcloth. The goddess Vesta was once saved by the braying of an ass, and so, for a long time, that animal was solemnly crowned by the Romans. These long-eared critics are still at large, and the voice of their braying is heard in the land. It is needless to say, as did Deborah, "Speak! ye that ride on white asses, ye

that sit in judgment," for they give their unasked criticisms. We are forced to stay their noise, as King Charles stayed the loud voice of a donkey that suddenly broke in upon the speech of the Mayor of Rochester, "One at a time! *one at a time*, gentlemen!"

We were saying that some works of art denote a "foregone conclusion." To see them is to admire them. There is no dissonance of criticism, at least among those of ordinary intelligence. The consensus of feeling is marked. This is an irritating fact to meet. Ruskin has encountered such a judgment of the works of Canova on the part of the educated English of the present century. He says that "the admiration of Canova is one of the most deadly symptoms of the civilization of the upper classes." Here we have the opinion of the critic *versus* that of the community. He is entitled to his, and they to theirs. But we recall Hilliard's remark, "Art cannot endure a commentary. It must be its own interpreter or else it cannot be understood." Least of all, we may add, can it endure a prejudiced commentator, who seems to dwell on the blemish and ignore the beauty, indulging sometimes in a severity that is libelous. Judgment went against Ruskin in 1878, when, in an English court, he was fined, though but a farthing, for abusing Whistler's "Nocturnes," in these words, "I never expected to hear a coxcomb ask 200 guineas for flinging a pot of paint in the pub-

lic's face." Such bitterness is apt to be proof of weakness, and hurts the critic far more than the artist.

Eaton says that Canova regarded his statue of the Princess Borghese as one of his best works. The prince allowed few to look upon it, being more jealous of the statue of his wife than of her own person. He kept the marble locked up in the palace, and he alone held the key of the apartment. The sculptor Chantry was admitted one night to see it and held the taper so as to best bring out the beauties of the figure. This incident suggested the lines of Moore:

> "When he, thy peer in art and fame,
> Hung o'er the marble with delight,
> And while his lingering hand would steal
> O'er every grace the taper's rays,
> Gave thee, with all the generous zeal
> Such master spirits only feel,
> The best of fame, a rival's praise!"

It has been called a miracle of manipulation in its exquisite finish. It also has a history which invests it with a still higher value, even, than it has as a work of art.

The kneeling figure of Pius VI. at St. Peter's has a purer sentiment, and that of Clement XIII., already noticed, is called by Hare the greatest work ever executed by Canova. Forsyth pronounces the lions "unrivalled," and he is not one who is lavish in praise, or in any such danger as Sidney Smith said Gifford was in, so generously distributing reputation as to leave no reputation to himself as a judge. Forsyth

was not a blind optimist, but rather sharp and severe, at times. He said of Canova, "He draws beauty even from expedients and throws mind into every trifle." The group of English kings under the dome of St. Peters is well termed by Lord Mahon "a stately monument" before which one may stand meditating "in thoughtful silence on the mockery of human greatness and the last record of ruined hopes."

Higher than either of these works, however, we may place the Mausoleum at Vienna, in the church of the Augustines, in memory of Christina. "That excessively clever carver, Canova," as a recent magazine patronizingly calls him—has presented here not only an elaborate but unique and meritorious work It is wrought in greyish marble and in a pyramidal form. There are two groups at the base, embracing seven figures besides a crouching lion, a favorite custodian of tombs. An allegorical figure of Virtue is represented as a noble matron bearing a funeral urn. She is followed by female attendants and by Beneficence, another queenly form, with a blind and feeble old man clinging to her, and a little girl, holding folded hands to praying lips. These all are delineated with marvellous pathos and delicacy of feeling, not less than with historic fidelity, as all admit who recall the sweet humanities illustrated by the Duchess. The details of this work are harmonious and vividly suggestive, as seen, for example, in the loosened and dishevelled tresses of the females, indicative of grief,

their simple unstudied attire, the torches they carry to illume the shadowy portals, the attitude and expression of each figure. The genius of the place sits leaning against the lion, looking with pensive and sympathetic gaze at the procession, while his right hand guards the shield of the House of Saxony. Above the door is held a medallion of Christina in the hands of Felicity. It is encircled by the emblem of eternity, and a winged cherub bears a palm of victory. The poetic sensibility of Canova's nature and the chivalric sympathy he had with that which was pure and noble have ample scope in the composition and execution of this celebrated piece of sculpture.

The genius of Canova is also shown in the field of historical composition. "Socrates and his Judges" is an illustration. This *basso relievo* contains about a score of figures. The Athenian sage confronts his accusers and denies that he has questioned the existence of the gods. His right hand and his eyes are lifted heavenward. His left hand lies on his breast, half concealed by his mantle. Plato stands behind in serene majesty, erect and unmoved, but Xenophon bends forward with something of sullen wrath in his eye, as if he would like to try weightier arguments than words. Alcibiades hardly carries himself with the martial prowess we should expect, and his face is too feminine for a soldier. The faces of the judges show no mercy, but Anytus, one of the accusers, seems to be abashed before the challenge

of Socrates, and is about drawing the tapestry across his face.

A more joyous scene is described in another fine *basso relievo* called the "Return of Telemachus." The "Death of Priam" is full of the tragic element, even to the verge of sensationalism. The gesticulations of the terrified females, the prone, limp body of the dead Polytes and the crouching figures of the fugitives, flying from the palace, are presented with ghastly and appalling fidelity, not unlike some of the figures in Michael Angelo's "Last Judgment." The anatomical accuracy of this and other groups is noticeable, and yet not offensively prominent, as in some of Angelo's works. Like Da Vinci, the inventor of iconographic anatomy, Canova subordinated details to the conventional and theoretic. During the authentic historic period of Greek art the dissection of the human body was forbidden by the Roman government. This is a necessary part of the study of a physiologist or a surgeon, but its importance to the artist has been greatly overestimated. Why seek the living among the dead?

As to the nude in art, also, the writer believes that it has reached its limit. Whatever may have been its value in the days of Canova, or Angelo, or Praxiteles, in Italy or Greece the unveiled figure is rarely to be chosen to-day among us. The author of "Marble Faun" says that these unclothed bodies, male and female, not only now awaken shame, but weary an

eye of taste. Greek sculptors made nude statues "modest as violets and sufficiently draped in their own beauty," but the modern sculptor cannot work with a pure heart, he says, for he must gaze on hired models, and "the marble inevitably loses its chastity under such circumstances." "To the pure all things are pure," but men are *not* pure, and that is just the trouble. Art nowadays not only incidentally but purposely ministers to lust, as photograph, painting and picture prove, as well as the confessions of many who have been depraved with this form of seductive art.[4] The present is a formative period in this land. Materialistic influences debase our tastes. Purity and refinement are lacking. We need not paint as dark a picture as Jarves, who seems to imitate Ruskin in exaggeration, and say that "in America the present is an epoch of monstrous plaster figures daubed with crazy paint; of shoddy portrait statues and insane ideal ones; of ornaments, pictures and sculpture made to gull and sell; of rude, though not unkindly manners and speech; lakes of tobacco-spittle and heels higher than heads, where ladies pass; of polluting the balmiest airs of heaven with fumes of filthy pipes, and of the thousand and one sins of commission by the selfish and thoughtless that make life tenfold less enjoyable than it needs be." We do not overlook the brighter side of the picture, the nameless and numberless influences for good which are at work to counteract these erotic and erratic elements in art

and vulgarity in manners. Still, there is a time for stern reproof and alarm. "The sentinel is not to sleep at his post," and the complaining critics we have quoted are not altogether wrong. Refinement of taste is absolutely essential, not only to the creation of new works of art, but to the enjoyment of those of earlier days. Christian art once shared the disgrace of paganism, and it is now our province to release it again from the debasing influences of a sordid civilization. As Homer was the Bible of ancient art, and Dante of medieval, the guide and guard of Culture to-day—of which art is one form of expression—should be the gospel of Jesus Christ. This motto should be written over the studio of the painter and sculptor as the law and the inspiration of their work, "Whatsoever things are true, whatsoever things are honest, whatsoever things are just, whatsoever things are PURE, whatsoever things are lovely, whatsoever things are of good report; if there be any virtue, if there be any praise, THINK on these things."—Philippians 4, 8.

Sir Joshua Reynolds says that oftentimes a single essay by an artist may be of more value to us in practical information than a thousand volumes of theory. We cannot take our leave of Canova and his works without listening for a moment to his own ideas of the sculptor's vocation, the spirit which animated, and the method which directed him, as expressed in his own language. We shall then be the better prepared

to test the correctness of our views of him and to judge of the true place to which he is to be assigned among the world's great masters. Listen to these words: "Art, being the minister of virtue, of beauty and ideal excellence, should always ennoble its subjects. How unworthy are they to be called true artists who, slighting the true purposes of art, are content to take low and imperfect models for imitation." As poetry chooses not only words proper and perspicuous, but choice and felicitous, so, says Canova, the sculptor should only create those forms that express grace and nobleness; "objects, in short, that are at once rare, true and beautiful." As one can always trust his own judgment in all things, Canova recommends his pupils or associates to avail themselves of the criticisms of others, and cites the example of Phidias, who hid himself in the temple to hear the opinions which his Olympian Jupiter elicited, and then reconsidered his work agreeable to public taste. Canova acted on this principle himself, and, disguised as a ragged monk, entered St. Peter's with the crowd that came to see his "Clement XIII." when first unveiled. He was undiscovered. The very prince who had ordered the work did not recognize him, but, thinking him a bold beggar, put him one side and told him to keep at a distance.

"There is one noble means of avenging ourselves for unjust criticism; it is by doing still better and silencing it solely by the increasing excellence of our

works. If you undertake to dispute, to defend, or to criticise, by way of reprisal, you involve yourself in endless troubles and disquietudes; disturb that tranquility which is so necessary to the successful exercise of your pursuit, and waste in harassing contests that precious time which you should consecrate to your art."

The good sense and candor reflected in these utterances commend them to the thoughtful regard of persons in every calling. They also give us an exalted idea of the moral excellence of the man who expressed them. Canova touches a vital theme when he speaks of personal character of the artist as revealed in his works. He shows himself fully in accord with that canon of art contained in the verse of a sweet singer:

> "'Tis first the good and then the beautiful,
> Not first the beautiful and then the good,
> First the rough seed sown in the rougher soil,
> Then the flower blossom or the branching wood."

It was Akenside who said that true beauty came from heaven as a priestess of truth in this dark world,

> "For Truth and God are one,
> And Beauty dwells in them and they in her
> With like participation."

Lady Eastlake speaks of the "sculptured grandeur" of Handel's music as a fit channel of God's thought to men, and in sublime majesty unrivalled by anything ever heard in human flesh. But it was the devotional character and not the mere musical skill

of Handel that gave the world the "Messiah." He wept and prayed as he composed. So Haydn wrote over his "Creation" "Soli Deo Gloria," and at the end "Laus Deo"; meanwhile, he says, "praying to God with earnestness that He would enable me to praise Him worthily." The sculptor, as truly as the poet or musician, is the historian and interpreter of life. As his own character is rich, ample, full and symmetrical, responsive to the good, the beautiful and true; he speaks to our deepest sensibilities and makes the speechless marble eloquent with unspoken thought.

Referring to the character of the artist, Canova says, "Purity of heart and ingenuousness of mind have a great influence to ennoble the conception of the artist, and even his style and powers of execution. Impurity never can be really beautiful. I myself detest all immodest subjects and think that an artist never should sully his mind by treating such. If you are unable to give to nudity itself an air of perfect modesty, quit the fine arts by all means for some other pursuit!"

He condemns severely the habits of dissipation into which some sculptors have fallen, late hours, the dance and the debauch, and says that he pities them in their vain attempt to unite a life of amusement with the work of a noble profession. Mediocrity or failure will be the sure result. On the other hand, zeal without discretion is fruitless." Mere enthusiasm

and warmth of fancy are little better than delirium, unless joined with soundness of judgment and fine powers of execution. The judgment is to be satisfied only by what is just and true, and the heart by the fine expression of natural feelings.

First of all, in chiselling a statue, he began with and finished the head before the other parts, that he might be inspired, "enamoured" with it, otherwise the three or four months' intercourse with the subject would be "work against the grain." "I have always found it necessary to imagine as lovely a face as I possibly can in order that I may proceed with spirit and devotion to the rest of the work. I say within myself, 'this lovely face ought to have every other part beautiful to correspond with it; the attitude must be beautiful; she must also be clothed and adorned suitably with her beauty,' and thus the first idea guides and inspires me throughout the work. This is science which is, I think, founded on the human heart."

Whatever diversity of opinions existed as to the comparative excellence of his works, wrought out on the principles thus stated, all the contemporaries of Canova were ready to admit the sincerity of his purpose and the purity of his life. When he passed away, we are told that throughout Italy was heard the ejaculation "uttered by every one with the deepest emotion, 'The good Canova is dead!'" The virtues he commended to others he had practiced himself. His chisel had wrought on marble and his life

had wrought on men. Hence these tears. His "works" followed him. His memory has lived in grateful hearts, for he who had never known domestic joys, who had lived a simple, frugal, single life, made many homes bright with his princely bounty. All through one winter's famine he fed the poor of his native Venetian village from his own private purse. To the father of another starving household he offered four hundred scudi, $500, not as a gift—for the man was a painter, poor in merit as in money, and as proud as he was poor—but as a nominal sum for a picture ordered by Canova, to save the man's self respect.

These memorabilia might be multiplied to show that Canova's ideas of personal character as related to the aims of art were not visionary, theoretical and unpractical, but were realized in his own life of five and sixty years.

It has been the aim of this thesis not only to characterize the features of Canova's works, but to show some of the principles which were their inspiration and their guide. With respect to a final judgment as to the place he justly occupies as a sculptor, little need be said in addition.

The high position to which the educated classes of England have raised him has been referred to in the remark quoted from Ruskin. In the present survey we have not hidden the faults that are apparent, but have chosen to attribute them largely to the vicious

influences in that period of art, out of which Canova's age was coming and against which he nobly strove. Estimated by the standard of perfection to which Hudson brings Shakespeare, "Solidarity, Originality, Completeness and Disinterestedness," in other words, organic unity, individuality, truthfulness and self-forgetfulness, the Italian in his art would sink below the bard of Avon in his. But judged by the times in which he wrought, and by the general atmosphere of grace and beauty that envelope his works, we are constrained to give him a high place among the artists of the world. Not only do his productions command our admiration, but the ideal he presented. No one was more painfully sensible than himself of the fact that that ideal was unreached, but the wholesome spirit it imparted may well be commended to the attention of some who style themselves founders of modern æstheticism, "a compound of fatalism, pantheism and pessimism, the prevailing materialism or 'dirt philosophy' of the day. Life is reduced to a serio-comic farce, or an utterly cheerless struggle for profitless objects; the world is either a playground for thoughtless merriment, or a theater for lawless riot." From such a "Renaissance," Good Lord deliver us!

It was only in this 19th century that Baumgarten gave men the word "Æsthetics," though the science of the beautiful had been studied from the times of Plato to those of Cousin. Now, men of the Swine-

burne stamp, or disciples of Oscar Wilde, have christened their insipid yet poisonous teachings on art "Modern Æstheticism," a euphemism that illustrates what Archbishop Trench terms "degeneracy of words." Over against their twaddle about beauty it is refreshing to set the sentences quoted from Canova, extolling purity of heart and nobility of aim as prerequisites in any department of the fine arts.

A study of the life and times of this eminent Italian sculptor is an alluring and remunerative exercise. Guided by the canons of criticism already stated, with an eye open to his excellencies as well as to his defects, to his purpose as well as to its realization, we cannot fail to see the value of the work he accomplished, or hesitate to concede to him the exalted position which he fairly won. High on the roll of those who, from the earliest centuries till now have adorned and enriched the temple of Beauty by their imperishable productions, the impartial historian of art will write the name of ANTONIO CANOVA.

NOTE 1.—Of Polybius, Anthon says a history has never been written by a man of more good sense, perspicacity, sounder judgment or more free from all manner of prejudices," while Tacitus is called the "Father of Philosophical History."

2.—Roubiliac used linen dipped in warm starch water. When the shape pleased him he left it to dry. Like Canova he polished the surface of the marble to a waxen smoothness to prevent stains, which do not easily penetrate a glossy surface. Chantry says that Roubiliac executed "the noblest of all English statues"—that of Sir Isaac Newton,

and that he cherished a most hearty regard for merit in others. Standing before the canopy which surrounds the figure of Sir Francis Vere in Westminster Abbey, lost in admiration, he was accosted by a friend. Laying his hand on his friend's arm, Roubiliac, entranced, exclaimed, pointing to the figure, "Hush! he will speak soon!"

3.—The icy gloss gives one a chill that the ordinary marble does not. Of the drapery of "Handel" by Roubiliac, "Every button seems to have set for its likeness." When we see Albert Durer's angel in flounced petticoats driving the naked pair from Paradise, or Cigoli's "Simeon" with modern spectacles astride his nose, we cannot but smile.

4.—In Wuttke's "Christian Ethics" we read that it is a false notion that clothing conceals beauty. It heightens it when it expresses the spiritual. A bathing place, he says, with naked bathers, though each be an Apollo, would not be a beautiful spectacle. Why exhibit in the gallery, or before the footlights, what would shame us elsewhere? Mendelssohn would not prostitute his art to the service of vice. He writes of a certain opera. "In this opera a young girl divests herself of her garments and sings a song to the effect that she will be married the next day. *I have no music for such things!* I consider it ignoble!" If all painters, sculptors and musicians took this ground, cleaner work would be done in all departments of art. A successful play-writer—of whom Augustus Daly says that he "has most distinctively portrayed American life in the drama," says in *Harper's Weekly:*

"Within the memory of theater-goers, the nude was almost unknown, and anything savoring of immorality was tabooed. At present *no* light opera or spectacular performance can be a success without a superabundant display of corporeal charms, and the number of plays whose corner stones are unchastity and vice, is constantly on the increase."

SUPPLEMENTARY NOTE.—"The Works of Canova," with three other papers, "Windows of Character," "The Works of Landseer" and "Rome an Art Center," were read in a course of Lectures given by the author in New York city, at the close of which the following resolution—presented by PROFESSOR W. C. JARVIS, M.D. of New York University, was adopted:

"Having listened to the Lectures of DR. THWING on Art and Character for the past month with vivid and increasing interest, week by week, we desire to record our grateful appreciation of these lectures—scholarly in statement and delivered in a most engaging style—and also to express the hope that they may find a wider audience and a permanent place, ere long, in a printed form."

Some of the scientific essays of this volume, read from advance sheets, have elicited kindly criticism from eminent writers. REV. DR. CHARLES F. THWING of Minneapolis, expresses his warm approval, and adds, "The author is working along a line of greatest promise for the reformation and regeneration of fallen humanity."

REV. DR. E. PAYSON INGERSOLL of Brooklyn, an honored member of the Cleveland Bar before he entered the pulpit, writes: "I have read PSYCHOLOGICAL STUDIES AND MENTAL AUTOMATISM with profound admiration. DR. THWING'S work is really grand. There is constant evidence of scholarly investigation. There is also graphic reasoning. His sentences are bright and ongoing. Beyond this, he convinces as well as pleases."

The Essay which was read before the Medico-Legal Society received "Honorable Mention" from the Committee on Prizes, and appears in the Transactions of the Society, also, in a separate volume issued by the Society. Orders for the same may be addressed to the Author, 156 St. Mark's Avenue, Brooklyn, N. Y.