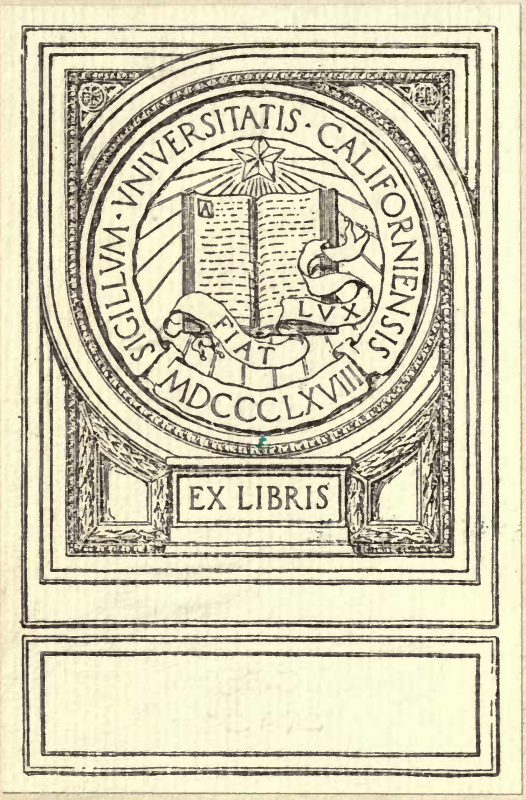
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THE IDOLATRY OF SCIENCE

BY THE SAME AUTHOR

GREAT TESTIMONY
VIVISECTION: A HEARTLESS SCIENCE
SONGS TO DESIDERIA
MEMORIES
AN EVENING IN MY LIBRARY AMONG THE ENGLISH POETS
DEMETRIUS
THE SANCTITY OF CONFESSION
NEW POEMS

THE BODLEY HEAD

THE
IDOLATRY OF SCIENCE

BY THE HON. STEPHEN COLERIDGE

LONDON: JOHN LANE, THE BODLEY HEAD, W.
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To

SIR WILLIAM WATSON, LL.D.

indisputable master of "the full resounding line" and of a very splendid prose, who has held aloft the ancient and glorious standard of the true cult of letters in a disordered world, who has never set things material above things spiritual, nor the tree of knowledge above the tree of life, I dedicate this little book,—a trifle, a jest perhaps, but one nevertheless that will "bear a serious examination."

S. C.

The Ford
Chobham

CONTENTS

THE IDOLATRY OF SCIENCE

CHAPTER I

A DEFINITION OF SCIENCE

"Knowledge comes, but wisdom lingers."

Tennyson.

THE word "Science" has in recent years received a more precise and restricted meaning than that attached to it in former times. Derivatively of course it simply means knowledge; and in the time of Johnson it was associated with any species of knowledge.

I have used it in this book in its more modern application, and I mean by it those branches of knowledge only which are associated with the law of numbers, of dimension, of motion and of time which is its measurement, with trigonometry, conic sections, the differential calculus and all the higher mathematics; with all the discovered laws of Nature

associated with gravitation, electricity, magnetism, light, heat, statics, physics, dynamics and the like in the inorganic world ; and with the laws and hypotheses connected with organic matter in so far as they can be proved to be immutable.

And by "A man of Science" I mean one whose interest is centred in a study of these fields of knowledge, who devotes his energies to ascertaining proved phenomena and perhaps in formulating hypotheses upon them. Such a man for example as Darwin, or Newton, or Lord Merchison the inventor of logarithms.

I therefore use the word Science to import something entirely distinct from, and opposite to, poetry, letters, oratory, history and philosophy ; something that has no relation to, or connexion with, the emotions, or with the character of man; something wholly unconnected with conduct; something with which

the principles of right and wrong have no concern.

And therefore when I speak of a scientific education I mean an education that of necessity is confined to an acquisition only of those branches of knowledge comprised in the immutable laws that are implicit in matter organic or inorganic, and in the human conceptions of number, space, dimension, motion and force.

Such is the Science of which I speak in this book. It has no connexion with wisdom.

CHAPTER II

THE GREAT USURPATION

"Great God! I'd rather be
A pagan suckled in a creed outworn,
So might I standing on this pleasant lee,
Have glimpses that would make me less forlorn;
Have sight of Proteus rising from the sea,
Or hear old Triton blow his wreathed horn."

Wordsworth.

THE elevation of Science to the supreme place in human affairs, and the claims made for it to a dominant position in the education of the young, constitute a usurpation that threatens to become intolerable.

The supreme consideration in human affairs is conduct, and what is the attitude of Science towards it?

Science drives full tilt towards the destruction of personal responsibility: it relegates

every act of man to the inevitable results of fore-ordained causes; we are all in the toils of a blind invincible law; we are cogs in an infinite machine over which we have no control; good and bad conduct are the results of equally irresistible impellents, and praise and blame are empty words. This is the world into which Science seeks to force us, and a dreary world it is.

The dominant object of a truly noble education is to make man magnanimous, and brave, and loyal, and truthful, and unselfish and merciful, and in all things to look up instead of down.

And what has Science to tell us about these things? Nothing.

And what are the qualifications of the men of Science to dethrone the study of literature, poetry, history and philosophy as the proper fields of education for mankind, and to erect Science in their place?

The Idolatry of Science

The knowledge of past discoveries in the physical world and the hope of discovering new ones, the results of which, with hardly an exception, are to make the face of the earth hideous and disgusting, to aggravate in an appalling crescendo men's means of slaughtering one another, to increase everywhere facilities for bodily self-indulgence, and forcibly to concentrate the mind of man on things physical instead of things spiritual.

Some few of us vehemently prefer the ancient wisdom to the modern knowledge.

Nothing so abject and deplorable in modern times has ever been witnessed as the practical abdication of the Church and the clergy before the insolence of the Royal Society and the professors.

An hypothesis—nothing more—is advanced by the scientific that man is no more than an improved arboreal ape, and all the bishops, priests and deacons tumble over one another

in their haste to endorse the degrading doctrine and to accept a gorilla as the origin of mankind. "Anyone," says Wood the great naturalist, "who would fancy himself to be descended however remotely from such a being is welcome to his ancestry."

The Church by no mental contortions or intellectual gymnastics can ever reconcile the dull negative assertions of Science with the spiritual aspirations of Religion, the noble altruisms of Christianity, or the divine visions of the philosophers.

"O Timothy, keep that which is committed to thy trust, avoiding profane and vain babblings, and oppositions of science falsely so called: which some professing have erred concerning the faith. Grace be with thee. Amen."

CHAPTER III

SENTIMENTALISTS AND FADDISTS

"Every action is measured by the depth of the sentiment from which it proceeds. The foundation of culture, as of character, is at last the moral sentiment."

Emerson.

How often, without challenge, in modern writings and speech, is Science elevated above sentiment! For fifty years and more have its worshippers with exclamatory vehemence exhorted the world to bow down in its murky temple wherein

> "An idolon named Night
> On a black throne reigns upright."

And who shall deny that perpetual and persistent assertion avails with the thoughtless world in entire independence of the truth or falsehood of the thing asserted?

"All with one voice about the space of two hours cried out, Great is Diana of the Ephesians." Iterated assertion sufficed with the public in the days of St Paul, and, the evolution of Science notwithstanding, iterated assertion suffices with the public of to-day.

So it has come about at last that the vociferous advocates of Science, perceiving in their hearts that sentiment and feeling will never bow the knee to their idolon, have for half a century cried out with one voice that sentiment is contemptible and feeling to be despised. But, fortunately for mankind, there always persists a remnant that looks deeper than the halfpenny Press, and higher than the raucous crowd, and that remnant ultimately prevails.

Diana of the Ephesians has returned to dust, and all the clamour of a hundred newspapers and a thousand books will not save

Science from descending with ignominy from the throne it has temporarily usurped.

Our sentimental faculties are far stronger and nobler than our cogitative; feeling must ever be superior to intellect in the work of man, and conscience a better guide of life than calculation. The highest manifestation of human power yet vouchsafed to us in this world is the creation of poetry, and since the dawn of history the poets have accordingly been crowned as supreme among men. Feeling lies at the ultimate foundation of all the greatest deeds of men.

Science never elevated conduct, nor aggravated virtue; it never bid anyone sacrifice his life for another, nor lead a forlorn hope; it never illumined charity nor condemned cruelty; its one positive perfected concrete human production in the modern world is the German.

Sympathy existed before Science was.

Sympathy is the origin of much of the noblest conduct of men or of nations, and sympathy has its root in feeling and sentiment.

Everything of man that is indubitably great comes from his heart, and not from his intellect, and wisdom is the offspring not of knowledge, but of love.

Men of Science have long found it suffice with the thoughtless world to dispose of their adversaries by the simple process of the employment of a certain contemptuous impertinence, and wherever the good and the humane have advocated the cessation of a practice or the enforcement of a principle that might interfere with the tyranny of Science they have been vilipended as faddists, and when once this absurd word has been pinned to a man's back he is deemed to have been demolished.

If I want to shut up public-houses because twenty-nine years' experience of the dreadful

business of the Crown Court at Assizes has proved to my understanding that to close them would be to empty the prisons of the country, I am called a faddist.

If I want to stop betting on horse-racing because that same experience of mine at Assizes makes me aware of the sinister and direct connexion between betting and embezzlement, I am called a faddist.

If I want to make it as illegal for a white handed man of Science to torture a dog as it is for a costermonger to torture his donkey, I am called a faddist, and without doubt a confirmed, determined, and unrepentant faddist I wish to be. For let me tell the man of Science who in fact and in deed is a faddist.

He is the man who proposes the reform of a law, or the abolition of a habit, which the prejudiced and the dull cannot defend with reason or justify in ethics. He is the man who, seeing visions, fights alone against

the serried cohorts of intrenched privilege and indurated wealth. He is the man who faced the world at the Diet of Worms and founded the Protestant Church. He is the man who first protested against the institution of slavery. He is the man who first denounced the brutality of hanging a man for stealing a metal button. He is the man who died alone and forsaken at Khartum. He is the man who tells his countrymen to-day that drink fills the prisons and empties the cradles of this country. All the noble army of martyrs were "faddists"! Would I were worthy to be among them!

And who may be the persons who think to stop the ascent of mankind by huddling together in the back-office of an evening paper and shouting "faddist" at the few who look up instead of down?

They are the brothers of those who jeered at Romilly and hissed John Bright. They

are the sons of those who cried out for the space of two hours, "Great is Diana of the Ephesians." They are the lineal descendants of the scribes and pharisees and of those stalwarts for law and order who stoned St Stephen.

CHAPTER IV

SCIENTIFIC EDUCATION

"The office of the scholar is a noble one. He is set apart to a kind of priesthood. He is the appointed guardian of the ideal in art and life, of the noble traditions of refinement and magnanimity, of great fames and great actions, that the one be not obscured by the incense burned before false gods, nor the memory of the other cease from among men to strengthen and inspire."

Lowell.

ARISTOTLE was once asked how much an educated man was superior to an uneducated one, and he replied, "As much as a living man is to a dead one."

But the education of which he thus spoke was not the acquiring of a knowledge of mathematics, or whatever laws of Nature had at that date been ascertained, but the study of and familiarity with all that the wise scholars, learned historians, inspired poets,

and divine philosophers had written about man and his life in this world. The study of Science may be of some slight service in the training of the mind in accuracy, and certainly Euclid and mathematics induce the reason to exercise itself in a just and correct manner. But these processes of the mind leave a man's judgment unassisted, they have no effect upon his actions, they have no influence upon his taste, nor upon his emotions, nor upon his morals. They will indeed to an appreciable extent sterilize his emotions, depress his patriotism, and oppose his inclinations towards unselfishness, by leaving these qualities untouched by the generous stimulation that a study of letters will inevitably educe.

"The proper study of mankind is man."

In a recent Parliamentary Report on "The Position of Natural Science in the Educational System of Great Britain" the following

curious complaint is made: "Too few parents of this generation can satisfy their children's curiosity about the wonders of the heavens, the movement of the planets, the growth of plants, the history of rocks, the dawn of animal life, the causes of the tide and tempest." It is indeed vulgar ignorance in a parent if he cannot explain the causes of the tides and tempests or the movements of the planets to his enquiring children; no one advocates a stupid ignorance of the simple facts of the universe about us, and a parent must be abnormally stupid and ignorant if he cannot tell his children how a common suction pump or a barometer or similar simple mechanical appliances work, and such obvious items of information can be acquired in a few hours by anyone not mentally deficient.

But a scientific education is quite another matter.

The binomial theorem, trigonometry,

conic sections, and all the rest of the higher mathematics are fields of knowledge that can be acquired with dreary labour by any one who persistently applies his mind to them.

But the only services to which they can be put in life are astronomy, and all that astronomy includes;—the prediction of eclipses, the correcting of the calendar, the tabulating of the tides:—and the calculations necessary for the building of bridges, the perforation of tunnels, the construction of all manner of mechanical engines and the like. The rules and laws in themselves never vary, and, when once ascertained, afford no further illumination to the mind.

No doubt Newton made a valuable discovery when he ascertained that all particles of matter tend to approach all other particles of matter with a force that varies inversely as the square of their distance apart. But the very fact that the law is invariable and

affects all matter similarly throughout the universe, has always done so, and must always do so, renders it quite uninteresting.

And those who spend their lives in the dreary occupation of making calculations which cannot err, estimating strains that cannot vary, and determining future phenomena which are certain and inevitable, become singularly dull individuals. For such exercises of the mind pursued with determination render it averse from poetry, and all the imaginative study of human affairs, preclude it from appreciating all the loveliness of life, leave it untouched by the sanguine emotions, and quite indifferent to the glamour of the arts, or to the divine gift of taste.

Not that there may not emerge here and there among men of letters one who by some misfortune has lost his imagination and has subsided into a mere man of maxims such as was Polonius, whose trite observations were

rightly founded on experience and were therefore not to be gainsayed, but whose opinions on contemporary human affairs were foolish, and who was in actual society a bore.

But such a case is the exception.

The man of letters whose mind is stored with all that the wise and eloquent and witty and inspired have written about the actions, aspirations and thoughts of men, unless he is dumb, must inevitably be the most agreeable of companions; whereas the man of Science with his mind stuffed with the changeless laws of physics and the dead phenomena of matter must ever be a dull companion; and man being a social creature, not the least desirable object of education must be to fit him for pleasant association with his fellows.

And let those who are for ever extolling Science as the most essential part of the education of a man to fit him for life,

listen to the measured judgment of Dr Johnson, whose authority on such a matter no man, whose mind is not unhinged with vanity, may disdain.

"The truth is,"[1] says he, "that the knowledge of external nature, and of the sciences which that knowledge requires or includes is not the great or the frequent business of the mind.

"Whether we provide for action or conversation, whether we wish to be useful or pleasing, the first requisite is the religious and moral knowledge of right or wrong; the next is an acquaintance with the history of mankind, and with these examples which may be said to embody truth, and prove by events the reasonableness of opinions.

"Prudence and Justice are virtues, and excellencies of all times and of all places; we

[1] Johnson's "Lives of the Poets." 1st detached edition. 1781. Vol. I., pp. 143-4.

are perpetually moralists, and we are geometricians only by chance.

"Our intercourse with intellectual nature is necessary; our speculations upon matter are voluntary, and at leisure. Physical knowledge is of such rare emergence that one man may know another half his life without being able to estimate his skill in hydrostatics or astronomy; but his moral and prudential character immediately appears.

"These authors, therefore, are to be read at schools that supply most axioms of prudence, most principles of moral truth, and most materials for conversation; and these purposes are best served by poets, orators and historians.

"The innovators whom I oppose," he concludes, "are turning off attention from life to nature. They seem to think that we are placed here to watch the growth of plants, or the motions of the stars. Socrates was

rather of opinion that what we had to learn was how to do good and avoid evil."

Now that frantic elevation of physical knowledge as the end of education and the crown of life has at last led Europe to the very brink of complete ruin on the plains of France, let us all do our best to draw mankind back to the old paths of reverence for human letters that led to nobility of mind and rectitude of conduct, and away from that gross idolatry of Science that will if persisted in inevitably deject the world to a final squalid scene of gelid and irreparable materialism.

CHAPTER V

THE ENEMY OF MANKIND

"I never went over a more interesting twenty miles than those between Rochdale and Burnley. Naturally, the valley has been one of the most beautiful in the Lancashire hills; one of the far away solitudes, full of old shepherd ways of life. At this time there are not,—I speak deliberately, and I believe quite literally,—there are not, I think, more than a thousand yards of road to be traversed anywhere, without passing a furnace or mill.

"Now, is that the kind of thing you want to come everywhere?" *Ruskin.*

THERE are people who with facundity maintain that modern cleanliness of the body, sanitation in the house, and sweetness of the streets, all of which are undoubted benefits to mankind, are due to Science. But I cannot perceive why it should need any Science to persuade people to wash themselves,—and

certainly the Romans washed their bodies assiduously without any directions from Science;—and in later times Bacon has remarked;—"cleanliness of body was ever deemed to proceed from a due reverence to God," nor need we any urgings of Science to do all we can to render our dwellings fragrant; we naturally prefer them so; and I know of nothing necessary beyond a nose to make us purify our streets.

What Science has in fact done in these matters is to make it almost impossible over vast tracts of densely populated country, for the people either to keep their bodies clean, their houses fragrant, or their streets sweet.

In an evil hour James Watt and George Stephenson between them gave railways and factories to mankind—and the horrible results are seen, in the ever-increasing vast agglomerations of miserable men and women in hideous

mean streets in the squalid centres of industry; in the rearing of millions of children who have never wandered in a green field, and to whom, if they ever look up into the murky canopy above them, there is never to be seen the blue sky that "bends over all"; in the soul-sterilizing circumstances of the factory where from morning till night amid an insensate din of damned machinery men and women become mere living cogs in wagging mechanisms and by iterated mindless manual movements create by the million in dreary facsimile some horrid jiggumbob that the world had better be without.

This is the main achievement of Messrs Watt and Stephenson, and as a by-product we are whirled about the country when we travel in a manner that makes it nearly impossible for us to see the country through which we pass, being half the time demersed in cuttings and often buried in tunnels.

And of the ancient and beautiful towns through which our journey takes us we see nothing.

How am I advantaged as a man, and as one who loves his country, by getting to Edinburgh from London in eight hours having seen nothing, instead of getting there in three or four days and seeing all the loveliness of the countryside, the peasants happily working in the fields, the sweet unconscious beauty of the villages, the parks and comely mansions with their stately gates on the old high road, the venerable churches with their ivy-covered rectories hard by, the quaint red brick almshouses, founded ages ago by pious benefactors, with their placid old inmates sitting out in the sun, all eloquent of the blessed repose of the quiet life?

And as with railways so it is with all the trumpeted triumphs of Science, few indeed of

them can be truly recorded as bringing benefits to mankind.

Certainly Chevalier Marconi's perfecting of wireless telegraphy has been the means of saving lives at sea; but even that discovery in the hands of Germans can be used equally for their destruction.

When the brothers Wright invented the flying machine the sanguine might have been forgiven for indulging in the hope that here at last had arrived an invention of Science that would bring to mankind spectacles of splendour surpassing all the dreams of the poets, conferring upon us the ecstasy of Mercury

> When he bestrides the lazy pacing clouds
> And sails upon the bosom of the air"

and the dreams of Apollo,

> "As when on high
> He walks the impalpable and pathless sky;"

that here was a chariot that would lift us from the earth, on which we have been condemned to crawl since we emerged from the illimitable past, and take us up to voyage among "the silver palaces built about the horizon," and come closer to the great Spirit of the Universe, "Whose dwelling is the light of setting suns." To mount and mount into the untrodden spaces of the air till, looking back, the far distant world, like an unsubstantial pageant, fade and leave not a wrack behind!

But these are but the chimeras of a man of letters, for no sooner was the flying machine invented than it was instantly developed and perfected as an engine of death and has been used by the Germans with persistent malignity to murder women and children, making it well-nigh impossible to maintain that mankind on the whole

would not have been better without even this last triumph of Science.

Some enemy of mankind invented the submarine, and by its means sixteen thousand British mercantile seamen have been sent to the bottom of the sea by our unspeakable enemies.

Science in time of peace deprives man of beauty in the world about him and of magnanimity in his mind within him. In the physical world it turns a smiling country into a blackened slag heap; it has given us the Black Country, the Rhondda Valley, and Landore, and in the spiritual world it has given us the Germans and the vivisectors!

To some of us the abominations practised by the Germans, those last favoured products of Science, in this war have come as no surprise; we have long proclaimed whither the insensate prostration of the modern world before this Idolon was leading mankind.

But perhaps the most striking prevision of the present degradation under which we groan was published in 1903 by George Gissing as having been found by him among the private papers of Henry Rycroft.[1]

> "I hate and fear Science because of my conviction that, for long to come if not for ever, it will be the remorseless enemy of mankind. I see it destroying all simplicity and gentleness of life, all the beauty of the world; I see it restoring barbarism under the mask of civilization; I see it darkening men's minds and hardening their hearts; I see it bringing a time of vast conflicts, which will pale into insignificance 'the thousand wars of old,' and, as likely as not, will whelm the laborious advances of mankind in blood-stained chaos."

The greater part of this remarkable prediction has already overtaken us; only by

[1] I am indebted for this reference to Mr Newton Scott.

first utterly crushing these restorers of barbarism "under the mask of civilization" and then by turning our own hearts away from this vile idolatry can we hope to avert the deep degradation of mankind.

CHAPTER VI

SCIENTIFIC COCK-A-DOODLE

"My Lords, we are vertebrate animals, we are mammalia. My learned friend's manner would be intolerable in Almighty God to a black beetle."

Maule.

THE war has constantly brought into prominence the obfuscation of the scientific.

One learned pundit contributed this gem about the Dardanelles to the Sunday papers on the 21st of March 1916.

"Owing to the fact that the waters of the Mediterranean evaporate far more rapidly than they can be replaced by the inflow from the Nile, Rhone, etc., there is always a current westward in the Dardanelles."

Of course, anyone whose common sense

has not been obliterated by Science would know that if the current always flowed out of the Black Sea that sea would be a fresh water lake, which it is not. Like Charles Lamb, one wants to take a candle and look at the head of the gentleman who wrote that nonsense.

The War was seized upon by Mr Stephen Paget as an opportunity for a display of the invincible obtuseness of the scientific mind. He published a pamphlet on the inoculation for typhoid fever, 350,000 copies of which, he says, have been distributed.

It is full of statements backed by no authority, which Mr Paget repeats from "hearsay," such as this:

> "The results (of inoculation) proved that typhoid fever, in the South African war, was twice as common in the non-protected as in the protected."

Mr McCormick, who joyfully pinked Mr

Paget in *The Nation*, told him that the Japanese went through their tremendous campaign without inoculation, whereupon Mr Paget exclaimed in reply:

> "I want his authority; and, of course, it must be real authority, not hearsay."

Prodigious! Mr Paget, the man of Science, may make assertions based on gossip, tittle-tattle, fancy, invention, prejudice, fanaticism, or nothing, and the lay world is not to hint a doubt, or hesitate belief.

But when Mr McCormick makes a statement that removes the middle stump of Mr Paget's argument, the latter peremptorily calls for "authority," and will have no "hearsay."

Mr McCormick responded at once thus:

> "My authority is the official report on the sanitary aspects of the Russo-Japanese war, by Lieut.-Colonel W. G. Macpherson,

C.M.G., M.B., R.A.M.C., dated Tokio, January 29, 1904: 'No prophylactic inoculations are being practised in the army with regard to enteric fever.' Is that good enough for Mr Paget?"

These unfortunate men of Science seem to become mentally incapacitated from perceiving the childishness of demanding from others what they do not supply themselves; they seem incapable of perceiving the distinction between what is evidence and what is not; they seem totally unable to think clearly or express themselves sensibly:

> "And thus the blind for ever lead the blind,
> While Dulness claims the scientific mind."

An article from the pen of Dr A. E. Vipond, in the *British Medical Journal* for the 13th February, 1915, began thus:

> "The bacillus of tetanus produces toxins which affect the nervous system."

One would like to ask Dr A. E. Vipond whether he has ever seen this busy little bacillus producing toxins, and how many distinct and several toxins he projects into whatever it is that surrounds him? Does he shoot one toxin from under his tongue like a serpent, and does he eject another toxin from under his tail like a wasp? Does he vomit one evil matter up his throat, and does he emit another into his envelope with excretions? Does he exhale one mephitic poison from his lungs and exude another in perspiration from his pores?

Can Dr A. E. Vipond really show us those different and several toxins, either in a bottle, or on the end of a needle, or between the glasses of a microscope? Or is he really displaying the usual confusion of mind, and carelessness of statement characteristic of men of Science, and is he really quite unable to afford any evidence whatever of these numer-

ous toxins? This seems to an unscientific person the most likely conjecture, because the next sentence continues thus:

> "No doubt the toxin becomes incorporated with the nerve centres,"

and thus the plural becomes suddenly and precipitately singular without any explanation or apology. Of course, when a man is making bald assertions based on nothing but his own audacity, it does not much matter whether he projects upon us twenty toxins or one. He is a man of Science, and therefore his business is to make assertions without proof or evidence, and the duty of the rest of us is to fall back before him with amazement and admiration, and accept his statements with humility and abasement!

These prophets of the new faith assay to fill us with awe and reverence by concealing in sesquipedalian nomenclature some quite

simple phenomena, and by revealing to us their slight acquaintance with one small corner of acquirable information in accents of assumed profundity.

In 1916 the May number of the *Journal of Experimental Medicine*, an American publication edited by Dr Flexner, a lofty pillar of Science, contains some splendid additions to the language in a paper by Messrs W. A. Jacobs, M. Heidelberger, and H. L. Amoss. The combination of races which their names represent prepares the reader for the lingual dexterity displayed in the paper by these American gentlemen entitled:

"Salts of Hexamethylenetetramine."

One of their tables alludes in a sporting humour to such little matters as:

Benzylhexamethylenetetraminium chloride.
p-methylbenzylhexamethylenetetraminium chloride.
o-bromobenzylhexamethylenetetraminium chloride.
o-cyanobenzylhexamethylenetetraminium chloride.

p-cyanobenzylehxamethylenetetraminium chloride.
o-methoxybenzylhexamethylenetetraminium chloride.
3, 4-methylenedioxybenzylhexamethylenetetraminium chloride.
o-nitrobenzylhexamethylenetetraminium chloride.
m-nitrobenzylhexamethylenetetraminium chloride.
2-acetoxy-3, 5-dibromobenzylhexamethylenetetraminium bromide.
2-acetoxy-3, 5-dimethylbenzylhexamethylenetetraminium chloride.
m-xylylenedihexamethylenetetraminium dichloride.
Mesitylylenedihexamthylenetetraminium dichloride.

When these gentlemen give lectures and make allusions *viva voce* to these substances, they must confer an unalloyed pleasure upon their audiences.

Mr Rockefeller must swell with pride at the enrichment of the English language that has become one of the by-products of his institute, and has totally eclipsed all previous efforts in the fields of *hocus-pocus conjurocus*.

The solemnity with which they regard themselves, and the exalted titles of laudation they employ when speaking of each other,

fill the foolish with amazement and admiration and the judicious with mirth.

They are all illustrious, and world famous, they pelt each other with degrees and diplomas, the whole country rings with their mutual hozannas, and the fountains of honour play upon them like a fire-engine on a conflagration. And all the while they are leading men away from everything that is spiritual, and persuading them to travel downwards and ever downwards into the gulf of materialism.

CHAPTER VII

THE IGNORANCE AND ABSURDITY OF THE SCIENTIFIC.

"The intelligible forms of ancient poets
The fair humanities of old religion,
The power, the beauty, and the majesty
That had their haunts in dale or piny mountain
Or forest by slow stream, or pebbly spring
Or chasms or watery depths,—all these have vanished;
They live no longer in the faith of reason."

Coleridge.

It has long been observed that mathematics tend to narrow the mind, and that an exclusive devotion to Science leads to an ignorance so complete that it precludes a consciousness of its own existence. The ordinary man of the world who possesses the common powers of observation bestowed on us all is aware that the sun gives out heat, and this simple power

of observation seems to be shared with us by cows and sheep and horses and pigs, who crowd into the shade of the trees on a cloudless summer day; but the president of the Royal Meteorological Society, who is also a professor of geography, is a scientific person, and therefore we find that in a book about climate and weather, in which he claims to be extending the realms of exact knowledge, he writes: "The sun does not itself give out heat."

This is a typical example of the ignorance of the scientific: only a prolonged obfuscation in meteorological laboratories could preclude a man from being as certain, as are the pigs and the cows, that the sun does itself give out heat. If the sun itself does not give out heat, the ordinary man would like to hear from whence the heat on a cloudless summer day does come.

Another scientific professor, an F.R.S.,

and at one time the director of the Solar Physics Observatory at South Kensington, has written for us some *Elementary Lessons in Astronomy*, and at page 51 he exclaims: "Then as to the sun's heat. The heat thrown out from *every square yard* of the sun's surface is as great as that which would be produced by burning six tons of coal on it each hour." So it seems in a multitude of professors there is little wisdom, and that what there is is contradictory.

This same president of the Meteorological Society, who ought to know, tells us that in considering the climate of the earth we should "leave out of account, as observation shows we may safely do, the small amount of heat received by conduction from the earth's hot interior"; but an F.R.S. and a Fellow of the Royal Astronomical Society, after asserting without evidence or proof that the moon once had fertile valleys, remarks: "The

valleys are no longer fertile, nay, the very atmosphere has apparently left our satellite, and the little celestial body which probably was once the scene of various forms of life now no longer supports them; this may be accounted for by supposing that, on account of the small mass of the moon, its original heat has all been radiated into space."

So one scientific professor says that the lack of internal heat at the surface has made barren the fertile valleys of the moon, and made away with its water and air, while another scientific professor declares that the practical failure of internal heat to affect the surface of the earth should be left out of account in considering its climate. Only scientific professors are equal to reconciling these quite opposite statements of the effect of the absence of internal heat on the surface of planetary bodies.

The Idolatry of Science

Mr Rockfeller has wasted a quantity of his impossible wealth in endowing the scientific who have proceeded with portentous gravity to exchange the legs of living dogs and to graft bits of one animal on to another. They might as well, while they were about it, have grafted asses' ears on to the heads of their fellow-physiologists as a last demonstration of the ignorance of the scientific, for before they can proceed to graft a new leg on to a man who wants one they must find a store of live human legs to draw upon, and only a man of Science would be ignorant of the permanent impossibility of finding anywhere in the universe a store of live human legs detached from human bodies.

In 1913 a vivisector of the name of Voronoff visited this country, and read a paper before the Medical Congress. The *Daily Express* introduced the gentleman to

the public with heavy-leaded headings, thus:

REVOLUTION OF SCIENCE

ASTOUNDING CLAIM BY A FAMOUS SURGEON

MOTHERHOOD

CHILDREN FOR EVERY WIFE

"IN THE FUTURE WE MUST RECONSTRUCT"

This was a happy example of what the Americans call hurricane advertisement. There followed an impressive picture of the gentleman himself. "Dr Voronoff," said the *Daily Express* "is a man of enormous personality. His eyes are large and luminous, and they light up his face with inspiration when he speaks. His body is like a machine of tempered steel, ready for any strain; his nerves are the iron nerves of the surgeon, who must in a second decide on his action, knife in hand."

The paper went on to say that this "world-famous surgeon"—all men of Science are world-famous—has, "by a marvellous transplantation from one animal to another, actually enabled a barren ewe to give birth to a lamb which is still living." "My experiments," added the vivisector, in inspired accents, "can be applied to human beings." "Sterility will be transformed into fruitfulness."

This is now the moment for us to hear more about this world-famous gentleman with the large eyes and the enormous personality. The population of Europe has been reduced at an alarming rate by the terrific war. "Children for every wife" are promised; but where is Dr Voronoff? Let him step forward, apply his experiments to human beings, and repopulate the world!

Another of the promises in the *Daily Express* was formulated in the following

categorical fashion: "It is a future when those who suffer from disease of any part of the body will have the part replaced by a corresponding part taken from someone who has died accidentally; when the wounded General can be made whole again on the battlefield by the grafting of the leg of some dead soldier," etc., etc.

But why wait for a wounded General? And why was Dr Voronoff not in Flanders during the war with his iron nerves, carrying the legs of dead men round, "knife in hand," and grafting them on the trunks of live but wounded soldiers?

Apparently there need have been no undue hurry in the matter. "Death," we were told, "does not mean the immediate disintegration of our internal organs; if they be taken away within six hours and grafted anew, they can be grafted successfully," and if organs, *a fortiori*, legs.

The Idolatry of Science

Dr Young, who wrote the "Night Thoughts," was not a man of Science, but his vision of what will happen at the last day ceases to be astonishing when compared with what Dr Voronoff promises to-day. This is Dr Young's description:

> "Now charnels rattle ; scattered limbs, and all
> The various bones, obsequious to the call,
> Self-moved advance ; the neck perhaps to meet
> The distant head ; the distant legs the feet—
> Dreadful to view, see through the dusky sky
> Fragments of bodies in confusion fly,
> To distant regions journeying, there to claim
> Deserted members, and complete the frame."

The editor of the *Daily Express* really should have instituted a search for this world famous grafter when the war broke out. He should have seen to it that these seriously advertised promises were redeemed, and that the illustrious Dr Voronoff was provided with the means on the battlefields of conveying fragments of the bodies of the

slain to distant wounded soldiers, there by "reconstruction" to "complete the frame."

Another scientific professor in America of the name of Crile, once published an account of the most fantastic and disgusting mutilations of one hundred and forty-eight living dogs, and when he had finished he gave to the world the conclusion of the whole matter which he professed to have been investigating in the following prodigious apothegm: "The result of action is reaction; of rest, restoration."

So all he added to human knowledge was a twopenny platitude which he seems, poor man, to have regarded as a profundity. It only remained for his fellow-men of Science to take him at his own valuation and to give him a prize for his rubbish:—which indeed they did!

Perhaps the last note of absurdity is reached when the new demigods call on us

to join them in their ridiculous prostration before mediums mumbling inanities in the grammar and diction of their native Tooting. Science now believes that the dead partake of "whiskey sodas" and smoke æther cigars.

Luckily a few of us are left with a sense of humour.

CHAPTER VIII

PROFESSORS OF "SCIENCE"

"The jejune professor of the sciences is not sent us as a pattern to imitate but as a warning to deter."

A great section of the unthinking and careless public have for long formed the habit of accepting without question anything emanating from the lips of a professor, whereas the general rule may safely be adopted, that a professor of Science is a man of prejudice, either indifferent to, or ignorant of, the laws of evidence, that he is a man who will assert to be a law of Nature what is really no more than a hypothesis, that he is a man with a mind too narrow to apprehend the noble emotions that in truth govern the actions of mankind, that he is a man who would "peep and botanize upon his mother's grave."

In no branch of Science is this more conspicuous than in that of medicine. The less a medical professor can prove the more will he assert. He has no patience with logic, and no respect for the laws of evidence. He will not argue or listen to argument, he brings forward no reasonable evidence, and will not attend to reasonable evidence brought before him by others. He is a man of Science, he peddles in a laboratory, he asserts, and when he speaks let no dog bark! The priceless principle of the freedom of the person, for which through long centuries the English race has struggled and died, he waves aside with his aseptic squirts and serum syringes, and claims the right to inject his nostrums into our bodies with or without our consent, and upon the prone trunks of the helpless hospital patients who refuse their consent he recommends injection "by stealth."

He deals in the awful traffic of life and death, and when a human being dies under the knife, his scientific idea of accuracy of statement finds its fulfilment in a report to Somerset House that the patient died of "anæsthetics." I make no suggestions that every operation performed was not necessary in the opinion of the operator, and was not executed with consummate skill and accompanied by every possible safeguard, but that accuracy of statement which alone satisfies unscientific persons is not present in a return to the Registrar-General which classifies a death, undoubtedly due to the operation, either to the anæsthetic employed, or to the disease from which the patient is suffering. The Registrar General himself is of course blameless in the matter, he can but make his returns in accordance with the certificates he receives; he is not concerned with their accuracy. But he made in the

Report for 1912 the following pregnant remark:

> "It is often impossible to determine from the certificate whether a death which occurred under an anæsthetic should be regarded as in any way due to its administration and not rather perhaps to the severity of the operation or other cause apart from the anæsthetic."

The public are entitled to know the truth, and the truth as to deaths under operations is at present withheld, and something that to the unscientific is indistinguishable from mendacity is sent to the Registrar-General.

Not long ago these ignorant men of Science proclaimed in the market-place that there lurked a subtle and terrible danger in the custom of our courts that directed the witness to kiss the Bible when he was sworn, and a terrified legislature bowed before them

and passed a ridiculous Act, which sensible judges with any regard for the dignity of our procedure have ignored. No evidence of a single case of any injury having ever reached anybody in the world from kissing the Bible in court has ever been produced, and if it could be produced these busybodies would no doubt have proceeded from strength to strength and have forbidden Christians to partake of the Sacrament from a common chalice.

With passionate prejudice the efficacy of vaccination to prevent smallpox is proclaimed, and the freedom of the subject in the matter denounced, and yet what are the records of this disease? The disease has practically disappeared from among us contemporaneously with a vast increase of unvaccinated persons. Moreover, in 1915 eleven persons were killed by being vaccinated, while only thirteen died of the disease. These are

facts, but medical men of Science care nothing for facts; if facts do not support them, so much the worse for the facts.

The quiet searcher after truth can get no assistance from their publications; all is flat assertion, supported, if at all, by nothing better than unverified figures compiled by furious propagandists with a serum to extol or a prophylactic to push.

Tetanus is a disease which at the moment is causing the flow of much ink from their pens. In a single article in the *British Medical Journal*, October 10, 1914, Mr. Alfred M'Conkey wrote these two statements on different pages:

(1) "Tetanus may be cured by the administration of anti-toxin, provided that the serum treatment is begun early in the attack and pursued vigorously and continuously."

(2) "The results following the use of anti-toxin as a curative agent have been up to the present for the most part unsatisfactory."

This is so admirably incoherent that the gentleman must be right either way, and thus is truth made plain and Science justified!

In an editorial article in the *British Medical Journal*, October 10, 1914, we find this statement:

"Thanks to antisepsis, tetanus is not now common in peace at home."

The suggestion here, if the words mean anything to the editor, was that this disease had been decreasing, but the Registrar-General told us in the report for that year that in the previous fifteen years the death-rate from tetanus per million persons living had increased from one to five! I suppose the writer in the *British Medical Journal* was

a man of Science, which precluded him from clear thought or accuracy of statement; his attitude no doubt was, "if my assertion is inconsistent with the Registrar-General's figures, so much the worse for the Registrar-General."

But the intrusion of Science into the art of surgery and medicine is calculated to entail results more sinister than mere inaccuracy of statement, and we find that whenever a bruise from a golf ball is mistaken for cancer and treated so as to jeopardize life, and whenever sponges, scissors and what-not are casually dropped into a patient's inside and sewn up in his or her abdomen, it is not done by the kindly, ordinary practitioner, but by a man of Science and an F.R.S. It is about time that the ignorance, inaccuracy, and recklessness of men of Science were universally recognized, and that the title of "Professor"

conveyed its proper meaning to the public, and, except when assumed by conjurers, jugglers, and tumblers, stamped a man as narrow, prejudiced, inaccurate, ignorant, and dangerous.

Germany has for a generation been lectured and disciplined by professors, and where have the professors led that race? Into the howling wilderness of blood and death, from which there will be no emergence into their prophesied land of promise with "Germany over all."

From a similar subjection to professors in this country, Good Lord deliver us!

CHAPTER IX

MEDICAL "SCIENCE"

"Cleanness of body was ever deemed to proceed from a due reverence to God." *Bacon.*

THE War Office and the public have for five years been prostrate at the feet of Sir Almroth Wright and his typhoid inoculation.

With regard to the War Office it is perhaps difficult to perceive what course they were to pursue in the middle of a great war, except that of following the advice of the best medical authority they could find. It must be assumed, therefore, that the War Office genuinely believed in the dicta of this oracle of Science.

Sir Joseph Lister was raised to the peerage in a halo of antiseptic spray, but Sir Almroth

Wright was reported in the *Times* of the 31st March, 1915, to have said:

> "The ordinary man who applied antiseptics said antiseptics killed microbes. But there were interesting experiments which showed that the addition of antiseptics to microbes in certain proportions caused the microbes to multiply."

It certainly is perplexing to "the ordinary man" to find one extraordinary man of Science extolled for discovering a germicide which another extraordinary man of Science declares is a germ multiplier!

"The ordinary man" for whose ignorance Sir Almroth expresses his contempt, believes on evidence that satisfies his unscientific mind that cleanliness of the body contributes to the preservation of health.

But Science in the august person of this adviser of the War Office informs a be-

wildered world that washing the skin removes a protective crust "which is all round our bodies like the tiles of a house,"[1] and that he objects to Turkish Baths because they "take away one's horny protection."[1]

"The ordinary man" has also formed his own conclusion that overcrowding and stuffy unventilated rooms are injurious to mankind, but this belief in the value of fresh air appears to be quite unscientific, for Sir Almroth Wright declares it to be

> "a dreadful superstition. The whole of the doctrine of fresh air required to be revised."[1]

Moreover, this ornament of Science extends his contempt to include not only "the ordinary man," but the ordinary doctor, for he has declared that

> "he had been in consultation with

[1] *Times*, March 18, 1911.

twenty-one doctors round a rich man's bed, and none of them knew anything about him." [1]

With Sir Almroth himself, and I suppose at least two nurses, there must have been, besides the rich man in the bed, two dozen people in that sick room, the windows and doors of which we may be sure Sir Almroth had tightly closed; and if each of the twenty-one doctors was given adequate time to pronounce the diagnosis upon which Sir Almroth deduced his ignorance of the sick man's condition, there must have accumulated such a plentiful lack of fresh air in that chamber as to have by itself powerfully assisted the patient towards recovery.

Sir Almroth forgets to tell us whether, besides the stuffy room, he prescribed the accumulation of "a horny protection" on the rich man's body, and, indeed, we are

[1] *Times*, March 18, 1911.

left to guess whether he himself succeeded where the twenty-one ordinary doctors failed, or whether the rich man died in spite of all the twenty-two of them.

Rumour credits Sir Almroth Wright with having visited our army in France, where one pictures him wringing his hands over the warm baths and the terrible amount of fresh air to which our troops were subjected.

It only remains for Sir Almroth to be elevated to the House of Lords for his beneficent and glorious scientific discovery that cleanliness and fresh air are inimical to health.

Meanwhile I must confess that these wonders of Science will indeed remain ever incomprehensible to one "ordinary man."

I am not aware whether a pamphlet issued by a Scientific Society that once had its office in Ladbroke Square was prepared by Sir Almroth Wright or not. It certainly

purports to support with lofty dogmatism the efficacy of an inoculation against typhoid fever associated with his name.

I reproduce the whole of it. Here it is:

"*January*, 1916.

"Among our Expeditionary Force in France and Belgium about 95 per cent. have been protected against typhoid fever, the annual average being about 90 per cent.

"The annual admission-ratio per 1000 is more than nine times greater among the non-protected than among the protected. Among the non-protected, it is 9·1 per 1000. Among the protected, it is 1 per 1000. The death-ratio is thirty-one times greater. Among the non-protected it is 1·84 per 1000 Among the protected, it is ·06 per 1000. The figures for Gallipoli have not yet been

thoroughly analysed and criticized: but they leave no room to doubt the value of the protective treatment.

"There are other germs, very similar to the germs of typhoid fever, and producing a very similar fever, which is called paratyphoid fever. It has been suggested, by some foolish people, that the figures given above are worthless, because typhoid fever and paratyphoid fever are so often confused. This suggestion is false. If the cases of paratyphoid fever are added to the cases of typhoid fever, the annual admission, among the non-protected, is 11·3 per 1000. Among the protected it is 3 per 1000. The death-ratio among the non-protected is 1·90 per 1000. Among the protected it is ·09 per 1000."

This is the kind of nonsense that satisfies men of Science and their gaping disciples.

The unknown writer calls those who regard such figures as worthless "foolish people." I should have thought the donkeys were those who accepted figures put forward in an anonymous pamphlet without a single reference of any kind with which to verify them, and without a single authority mentioned as responsible for their compilation.

There is nothing whatever to show that these figures are not simply invented. The inoculation against typhoid may be effective or ineffective, but if there is anything that will make sensible unbiassed people hesitate to believe in its efficacy it is the publication of statistics quoted from no one knows where and proffered in red ink by a society of prejudiced people.

An anonymous pamphlet was issued from this same Scientific Society on the same subject in October 1914, and it was headed

by a picture which I joyfully reproduce. The title under the picture was:

GERMS OF TYPHOID FEVER: VERY HIGHLY MAGNIFIED.

What purpose this picture of blots and scratches serves in the argument that inoculation is effective does not appear, and with the feeble magnification adopted the picture is

quite unintelligible. I have however been fortunate in procuring a stronger magnification

GERMS OF TYPHOID FEVER : MORE STRONGLY MAGNIFIED

and I here reproduce the result, and it seems doubtful whether any inoculation can be a match for such germs.

CHAPTER X

THE BICYCLE AND MOTOR CAR

"Her silent course advance
With inoffensive pace, that spinning sleeps
On her soft axle while she paces even
And bears thee soft with the smooth air along."

Milton.

NEXT to railways there appear to be three inventions of Science which have most forcibly intruded upon daily life and fundamentally modified our habits.

These are telegraphy, exclusive of the wireless kind but including the telephone, the bicycle and the motor car.

I do not include printing, for though ingenious and of vast benefit to mankind, it requires no more acquaintance with Science for its original invention than did a tie-clip.

The telegraph and the telephone can

hardly by the most biassed pleading be shown to have made men happier or better.

We now receive news sooner than we did and whether we become aware of the death of a relative to-day or to-morrow matters not at all, except to bring our misfortune, if it be one, to us quicker.

In illness the telegraph and the telephone share the responsibility of bringing the doctor faster than before to the bedside with whatever result may ensue therefrom. I know of no statistics that will serve to decide whether that confers a benefit or not to mankind. But conceding that it be a benefit, it is easily outweighed by the countless impertinent intrusions upon our privacy and our peace that those tiresome inventions have inflicted upon us while we are in the enjoyment of health.

But there can be no doubt that both the bicycle and the motor car have put it in the

power of all classes of mankind of both sexes to be happier and better. The bicycle enables everyone to visit and enjoy wide tracts of country which would otherwise be beyond reach. It confers the benefits of moderate exercise without undue fatigue, it gives innocent happiness to everybody, banishes introspection, mitigates anxieties, reveals the loveliness of the English country side, and aggravates patriotism thereby. It promotes the wholesome mind in the wholesome body. It is within the reach of all and is probably the greatest blessing that has in civilized times been conferred upon the world. Whether Science can justly claim any share in its invention I do not know. Very likely it was invented by some one who knew nothing and cared less for Science.

In a lesser degree, because within the reach of fewer people, the motor car can be made a blessing to mankind.

I fear some of those who use it do little more with it than rush with demoniac speed through the country, seeing nothing of it because looking for nothing in it. It is a pity that when Parliament determined to fix the legal speed limit at 20 miles an hour they did not enforce their decree by making it obligatory for every car to have what is known in engines as a "governor" attached to the machinery, which would automatically have prevented the car travelling beyond the fixed speed.

This would have saved motorists hundreds of thousands of pounds, extracted from them by magistrates bent on getting much of their own rates thus paid.

It would have enforced irresistibly upon all a reasonable though quite adequate speed upon the public highway, and it would have abolished the insufferable hog who roars down the roads at sixty miles an hour, bring-

ing the pleasant pastime under the just censure of every other user of the highway, and drawing an undeserved odium upon all the owners of cars of modest power.

But to the reasonable owner who is satisfied with the speed limit and with a journey of a hundred miles in a long summer day, leaving him time and opportunity to linger in beautiful villages and pause when he tops the long hill to enjoy the distant prospect, nothing is more delightful than to glide along with a pleasant companion over the hills and far away, to enjoy the frugal meal on some lonely summit, or upon a river bank, or in the deep woods, to reach in the evening some mellow old cathedral town, to sleep in the venerable inn in which our fathers lay when they travelled by the king's highway, and to rise again "to-morrow to fresh woods and pastures new" and take the road early enough to watch the slanting sun.

"Clothing the palpable and familiar
With golden exhalations of the dawn."

The mind is soothed by the ever-changing scenes of beauty, anxieties seem to be blown away from us by the swift passage of the air, all resentments are assuaged, the sweet beauty of England fills the heart with a love of our country that attains to adoration; and we return home at last with a sense of benediction, happier, better, and fitter for the work that we must resume once more.

The motor car and the bicycle then are the two undoubtedly beneficent inventions that Science has conferred upon a world which it has otherwise physically defaced and ruined, and morally degraded and defiled past hope, past cure.

CHAPTER XI

SCIENCE AND EXPRESSION

"Poetry is not the proper antithesis to prose, but to Science. *Coleridge.*

One of the most urgent necessities of education is to confer upon men and women the capacity for expression and for appreciating expression in others. Poetry is the highest form of expression man has yet found for the deepest emotions of his heart.

Perhaps no education can make a man a poet, it being a divine endowment, but a scientific education dulls a man's heart and stops his ears to the song of poets, so that he can neither produce poetry himself nor appreciate it in others.

To understand and derive pleasure from poetry comes naturally and freely to the man

nurtured among the classics, and one who "has not failed, in the sweet and silent studies of his youth, to drink deep at those sacred fountains of all that is just and beautiful in human language" will carry through life the ear to hear and the heart to understand the noble accents of the heavenly choir of the immortals.

And the language of our race carrying down from the distant past the elegant refinement of Greek, the grave force of Latin, and the terse strength of Saxon, has, by a happy union, left us in possession of perhaps the most glorious form of human expression that has ever emerged upon the earth; and to study and preserve in the memory the utterances of the great in this noble vehicle of thought will refine the mind throughout life and will console it in declining age.

To peruse treatises on the precession of the equinoxes, or on the motion of a particle

in a moving space, can hardly offer like consolation to a man's heart; and the binomial theorem can never be accepted as a substitute for Shakespeare either in the noonday or twilight of life. Science has brought up its "prancing cohorts" in modern times to vulgarize thought and destroy imagination; but the great writers of old enjoyed a freedom from the poison gases that stifle the letters of to-day, for no Darwin had shattered for them the story of the creation of man; no Huxley had questioned for them the very existence of God; to them a comet might be a sign from Heaven of coming portents on the earth; and to them the thunder among the hills might be the voice of God himself; to them when the Spirit of God moved upon the face of the waters at the creation of the world, the word went forth "Let there be light, and there was light," and this decree of the Almighty had not been degraded into

a mere manifestation of oscillations of some postulated imponderable something or nothing filling space every way to infinity, indifferent to the law of gravitation.

To them thought was a divine participation in the mind of God breathed upon them by the Holy Ghost, and not a mere condition of some of the matter inside their skulls.

But Science has totally destroyed these amiable illusions, and the great world itself has been shown to be but a crumb ; and man, once the supreme work of God at the head of His universe, has been dejected to a crawling atom creeping about on another atom, in an infinite space, through which it is whirled a thousand miles a minute round the sun, which in its turn is whirled towards a point in the constellation of Hercules at twenty thousand miles an hour, and where the constellation of Hercules is going no one knows, for every star in it is hurtling in different

directions ; and although all these very large material facts are not of so much real moment to mankind as one movement of charity, one noble aspiration, or one act of self-sacrificing valour, yet this proper subjection of Science to an inferior position is not readily observed by thoughtless and superficial people.

The melancholy result upon a man's mind and heart of an uninterrupted pursuit of Science finds a perfect example in the terrible confession made by Darwin, who wrote :

> " Up to the age of thirty, or beyond it, poetry of many kinds, such as the works of Milton, Byron, Wordsworth, Coleridge and Shelley, gave me great delight, and even as a schoolboy I took intense delight in Shakespeare. I have also said that formerly pictures gave me considerable, and music very great, delight. But now, for many years, I cannot enjoy a line of

poetry. I have also almost lost my taste for pictures or music."

And in another place he says:

"It may be truly said that I am like a man who has become colour blind."

This is to own that in the atrophy of his perception of beauty he was himself reverting to the condition of the arboreal ape from which it was his lofty claim to have been descended.

As of poetry, so of prose, and so of speech.

The great writers of prose, and those whose eloquence has moved the world, derived none of their powers from Science, but from a reverent study of the great writing and great speech of those who have gone before them.

The Bible, which is the corner-stone of literature, and upon which all the greatest

writing consciously or unconsciously leans, is not a work of Science.

And a man does not learn to hold senates in awe, to "create, subvert or reform," to wield over his fellows so majestic a sway as that it can be said of him that "no idle contest for ministerial victories sunk him to the vulgar level of the great," by studying conic sections or the higher mathematics, or the excrement of earth worms.

And as of great writing and great speech, so of great painting, which is another of the noble forms of expression by which man educes the emotions that dominate his heart.

To the man of Science, I suppose, the end of painting or drawing is to reproduce on the flat what he sees in the round; and to him therefore a coloured photograph should precisely accomplish the end in view and should in his opinion fulfil any reasonable man's most exacting requirements in this

field of effort. His mind is attuned to the collection and assortment of precise items of exact knowledge or phenomena upon which he bases his dull hypotheses as to their causes. And to a physiologist, as Miss Cobbe once remarked, a bas-relief of a centaur or a cherub must be absurd, because the first must have two stomachs and the second none at all.

We can but record our sorrow for the unhappy man to whom all the limitless glories of painting that have transfigured Europe from one end to the other make no appeal, and register our protest against the desolating pursuits that have blinded his vision and ossified his heart.

In architecture it may be conceded that Science is entitled to a slight participation as a mechanical necessity. For architecture is always in a measure a Science and only sometimes an art. It is always a Science, because

a building erected without knowledge of weights and strains will collapse. It is sometimes an art when it advances from mere utility to become a form of expression and to reveal the heart of the builder, and appeal to that of the beholder. The true function of architecture as an art is to deal with weight significantly. Every great structure is a lasting index of the builder's mind; for he so treats the physical pressure earthward of the stone as to symbolize the spiritual oppression of the mystery of created things upon his heart. The temples of Egypt express the gloom and terror of overwhelming unendurable weight enforcing in every line of the awful perspective the spectacle of the builder's soul gazing with appalled aspect at the approaching gulf of annihilation.

The nobly upheld Greek edifice with its straight perfect shaft easily and royally upbearing the super-imposed weight, everywhere

symbolizes the lofty spirit of the builder who was supported and consoled by a divine philosophy.

And in the Gothic glories of the Western world, the upward flow of the lines exuberantly rising skyward, to expend themselves in pinnacles like flames ascending to heaven, whose sole function is to express aspiration, reveals the adoration of the Saints who reared their spires into the sky.

> "They dreamt not of a perishable home
> Who thus could build."

The type of architecture that is only Science and not art is the Forth Bridge. It will not stand up unless it is painted continually, but would soon rust away and collapse. So some forty acres of iron have to be kept continually painted. It is an expression not even of utility, for it leads only from Edinburgh to a few towns of very moderate population. It cost three million

pounds to erect, and cannot even be claimed as a lucrative adventure, and I hope most cultivated people would rather go round or be ferried across than see the beautiful Firth of Forth bridged by a monstrous arrangement of painted iron. It is always acclaimed as the last and most splendid achievement of Science, and there we can appropriately leave it.

CHAPTER XII

SCIENCE AND UGLINESS

"And grovelling Art and Letters prostrate fall
That lordly Science may be all in all."

One of the causes of the idolatry of Science in the modern world is the tendency of man to reverence what he does not understand.

"Nothing," said Montaigne, "is so firmly believed as what we least know," and ignorance has ever fallen prostrate before what is beyond its comprehension. Madame Blavatsky achieved her success with a gaping public by claiming that she could produce letters precipitated out of space, and all the noble army of thought-readers, professors of spiritualism and levitation, with their astral planes, and giddy elementals, and Mahatmas that live a hundred and fifty years in inaccess-

ible mountain fortresses, and all the rest of their marvels find their support in the proneness of folly to believe in the incredible or in what is beyond its comprehension.

To the ordinary man, much of Science is beyond his apprehension in a manner that letters can never be.

The classics and the poets and historians can be appreciated and understood by any intelligent reader, but the differential calculus and the whole nomenclature of sines and cosines and coefficients and the rest of the symbols of the higher mathematics are of course quite incomprehensible to any but those who have devoted themselves to that sterile and dull mechanical industry in which I regret that I wasted some years of my youth.

The abracadabra of Science accordingly, like the incantations and jargon of the astrologers and necromancers of the middle

ages, fills the uninitiated with reverence and fosters this insensate idolatry.

Perhaps the most awful effect upon the modern world of the dominance of Science is the submersion of beauty and the exaltation of ugliness. Science tells us that beauty is entirely subjective; that as an objective quality of matter it can have no real existence; that a dead body in process of corruption and a lily of the valley are both nothing but manifestations of irrefragable laws and inherently do not differ; and that only in the mind of man sunk in deplorable prejudice does the one appear ugly and the other beautiful. Of anything that Science in its vanity cannot explain it will, if it can, deny the existence.

As Science cannot explain it, Science would deny the existence of life if it could do it with any chance of success.

Fortunately we are all conscious of being

alive and cannot be argued out of that undoubted attribute of the mind, but many people have not an equally indisputable consciousness of the existence of beauty in the world about them ; and they have not therefore resisted the gradual sapping of the sense of beauty that Science has insidiously been effecting in every field of human effort for the last half century.

Beauty has gradually been dethroned and ugliness exalted in poetry, painting, sculpture, and all forms of human expression.

Uncouth collections of words, with neither rhyme nor rhythm are printed in lines of no particular length down the middle of the pages of a book entitled "Poetry" on its cover, and the critics hail the impertinence as the last note of poetic triumph over the ancient and discredited shibboleths of literary law and order; and if the author, greatly daring, shall advance upon the public and

bludgeon it with the foul language of the stews he is crowned as a realist and man of force, no namby-pamby searcher after beauty, but one who knows the truth and is not afraid of it—like a sewer cleaner.

The discarded and contemned classic writer from Shakespeare to Tennyson sublimated the passions and made love a spiritual vision conferring on those to whom it was vouchsafed a station at the door of Glory where they could stand together transfigured by the light of Heaven within "Imparadised in one another's arms"; but these later geniuses, these men of fearless truth and intrepid realism, go to! they will tell us, the unblemished verity about love, and treat it, in the vivid light of Science, as what it is—an arrangement for procreation, and let there be no more nonsense talked about it!

How trite and tiresome to write about great actions, noble scenes, uplifting aspira-

tions, pure emotions and all the loveliness of the world as God made it ; the proper field for poetry is a filthy back street in a slum, the gross and bestial passions of the yahoos of the public-house, the brutal language, the sordid actions, the squalid murders of dirty people " that tear each other in their slime."

Such has been the effect of the rise of Science upon the poetry and the criticism of England.

And in painting and drawing we find a like sinister result. Beauty is out of fashion and hideousness has come into its own. Gaping crowds stand and gaze in awestruck wonderment before pictures of nude men and women with legs like German sausages and bodies like the undulating gas-bags that at one time oscillated atop of motor cars. While other geniuses, not to be outdone by this school that paints the head as a lard bladder, determine to present the human form to the

astonished beholders as an agglomeration of triangles, parallelograms, and rhombs, and in its prostration before Science essays as a final perfection to assimilate man's body to the figure of the Ass's bridge in Euclid, thus consummating, I suppose, the felicitous union of Science and art.

Sculpture has followed, and we have now placed before us for admiration Venuses cut square like the wooden figures of Noah and his family in children's arks—only not quite so lifelike—of course a dressmaker's dummy manikin approximates more precisely to the real form of women even to the round base that represents the feet; but the object of the master is not to glorify Nature but to insult it, and to shew what the ideal woman is like in a world dominated by Science instead of art.

Look where we will in all walks of life, beauty is discredited and ugliness acclaimed.

And yet a few, a dwindling band, con-

temned and disregarded, endeavour amid the bellowings of the crowd to whisper a word here and there in reverence and worship of beauty. And they strive when occasion occurs to win back the allegiance of mankind to the divinities that reigned before Science came trudging down the world crushing with its iron feet the lovely flowers of literature and art that have sprung from the heart of man ever since he received the gift of expression.

For beauty is scattered everywhere in the world as God made it before Science defiled it. It broods over the depths of the sea, and with infinite prodigality displays itself even where there is no eye to see it.

It dwells equally among the mountain tops and amid the flat meadows, in the blaze of noon, in the light of setting suns, and in the silent night time, with "this brave o'erhanging firmament, this majestical roof fretted with golden fire," spread above us.

The whole universe is its cathedral.

Science strives day and night to blind men's eyes so that they shall not see it, and where it succeeds men are robbed of a perfect and stainless happiness; for the appreciation and perception of beauty is its own reward, it confers pleasure that is utterly pure, it fosters in the mind refined and tender feelings and emotions, it elevates the character and fills the heart with wonder and love and gratitude, and, as Addison has said, "it strikes the mind with an inward joy, and spreads a cheerfulness and delight through all the faculties."

Only the wickedness and perversion of man can defile the world as it came from the hand of its Creator, and obliterate its beauty.

"And God saw everything that he had made, and behold it was very good."

"No doubt a lorn adventure, for a solitary swordsman to throw himself, in light armour, across the path of the prancing cohorts! Likely enough he will be trodden underfoot, and none ride up to avenge him; yet it may well happen that the need for some other and better champion of a drooping cause will hereafter be found even more urgent than now."

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