

PHRENOLOGY APPLIED
TO
PAINTING AND SCULPTURE.

BY
GEORGE COMBE.

"What a piece of work is Man! How noble in reason, how infinite in faculties! In form and moving how express and admirable;—in action how like an angel; in apprehension how like a god!"—*Hamlet*.

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P R E F A C E.

IN 1844, 1846, and 1847, several letters on the application of Phrenology to Painting and Sculpture, were published by me in the Phrenological Journal. They attracted some attention at the time, and were translated into Italian. Their contents are now rearranged; a few illustrations have been added; and, with these alterations, they are reproduced in the following pages.

I take this opportunity of expressing my obligations to Mr Lawrence Macdonald of Rome, and to Mr Robert Tait, now of 5 Queen Anne Street, Cavendish Square, (with whom I became acquainted in that city,) for the kind and valuable assistance they afforded me in verifying, maturing, and embodying the principles which characterize this work. To Mr Macdonald I owe my initiation into the philosophy of art, while he was yet resident in Edinburgh a quarter of a century ago. I entertain a grateful recollection of the promptitude and intelligence with which these artists entered into the consideration and elucidation of the subjects here discussed.

The professional artist and instructed amateur will

readily perceive the absence of a technical knowledge of art in the following pages. In relation to art, I feel myself to stand in a position similar to that of the scientific chemist in reference to the brewer and baker. He may be unacquainted with the practical details of these trades, and nevertheless be able to explain the laws of fermentation which the brewer and baker must observe to succeed in their manipulations. This analogy, however, is not complete ; for in art, genius is indispensable to the successful application of rules. But still, one who has studied the science of man by a new method, may have become acquainted with facts and principles calculated to aid the artist in realising his own inspirations : and to present such to his notice is the aim of this publication.

GEO. COMBE.

45 MELVILLE STREET,
EDINBURGH, 21st May 1855.

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INTRODUCTION.

THE following work is based on Phrenology ; and unless the foundation be stable, the superstructure is a dream. It will, therefore, be not inappropriate to advert briefly to the history of public opinion in regard to Phrenology. An exposition of that history may be useful in pointing out the progress which Phrenology has made, the stage which it has now reached, and its prospects in the future.

In 1796, Dr Gall announced, in Vienna, his discovery of the functions of the brain ; and from that year till the present, the subject has never ceased to engage attention. His views were received with ridicule and violent opposition in Germany, France, and England. Nevertheless, at present a half-avowed impression exists in the public mind, that this early and unmeasured condemnation was a mistake, and that there is more truth in Phrenology than was at first believed. Still, it has not become a serious study : few are prepared fully to recognise either its general truth or its importance, and fewer still really know what it is, or are competent, from knowledge and observation, to form a rational opinion of its foundation and consequences. There is, however, something calculated to excite consideration in the fact that, after the lapse of fifty-nine years, a series of propositions of the deepest scientific and practical in-

terest, alleged to be based in nature, should remain unrefuted, yet unacknowledged as true; rejected, yet mysteriously holding their ground; despised, yet never falling into oblivion; supposed by many to be dead, yet presenting unequivocal indications of vitality and vigour in modifying the manner in which the mind and body are thought of, spoken of, and written about; also influencing opinion, and occasionally action, in momentous departments of social life, such as education, lunacy, and prison discipline; and gradually introducing a new nomenclature of the mental faculties into common language.

The explanation of these phenomena appears to me to be found in the fact, that Gall's discovery was so unexpected, so much at variance with all previous habits of thinking, and, in its consequences, so momentous, that the public mind was not prepared to receive it, and was, generally speaking, incapable of apprehending and appreciating it. It was a discovery of the same class with that of the rotation of the globe on its axis. Consciousness, experience, and ocular observation, had all concurred in assuring mankind that the earth is at rest, and that the sun, moon, and stars move round it. It was in vain that Copernicus and Galileo, and a few other enlightened men, adduced facts and reasoning, long since acknowledged to be irresistible, to demonstrate that consciousness, experience, and ocular observation, were all deceptive guides to that conclusion. Belief in the rest of the earth and in the motion of the heavenly bodies was, as it were, photographed in the brains of the men to whom the new ideas were presented; and, as we learn from the records of the period, the discovery was treated with incredulity, disgust, ridicule, and opposi-

tion, similar to those heaped on Phrenology. Generation after generation required to die and be buried, and their opinions to be consigned to the grave with them, before a state of the human mind was reached, capable of fairly investigating the new doctrines; and then their evidence was recognised to have been all along unquestionably sufficient to support them, the whole difficulty having lain in the mental condition of those to whom they were first presented.

The history of Phrenology is strictly analogous. Ever since the creation of man, the existence of the brain has remained unknown to him as a matter of *consciousness*. It has all along, through countless ages, been acting as the instrument of feeling and of thought; and, nevertheless, the thoughts and feelings which it produced have been ascribed to "mind," an entity assumed to be entirely distinct from and unconnected with matter. When, therefore, Gall announced that in this world the power and manner of thinking and feeling depend on the size and condition of the brain and of its several parts, the great majority were shocked and offended. It has even recently been observed that "Nothing can be more galling to our human pride than to be forced to admit that the refined spiritual part of us can, even in this life, be ever utterly at the mercy of the gross bodily part. Who can think without some humiliation, that the poetry of Shakspeare and the discoveries of Newton, depended upon the healthy condition of a system of nerves, and of a collection of nervous matter which a child might imprison in the compass of a toy-box? The mere thought of this is a wound indirectly inflicted on every man's pride."^{*}

* *The Leader*, October 21, 1854, p. 1004.

That this passage represents what was the real state of the public mind at the time of Gall's discovery is proved by the contemporary literature of all Europe. The following passages, for instance, in the *Edinburgh Review*, were received with nearly universal acclaim in their own day. "We look upon the whole doctrines taught by these two modern peripatetics (Drs Gall and Spurzheim), anatomical, physiological, and physiognomical, as a piece of thorough quackery from beginning to end. They are a collection of mere absurdities, without truth, connexion, or consistency; an incoherent rhapsody, which nothing could have induced any man to have presented to the public under a pretence of instructing them, but absolute insanity, gross ignorance, or the most matchless assurance."

This opinion was published in June 1815 in the 49th number of the *Edinburgh Review*, by Dr John Gordon, then a celebrated lecturer on Anatomy in that city; and almost every other press in the United Kingdom echoed it. In 1826 the late Lord Jeffrey in the same Review, No. 88, entered the lists against Phrenology. He writes—"Long before this time, we confess, we expected to have seen them ('Gall's craniology' and 'his plaster heads') turned into toys for children, and this folly consigned to that great limbo of vanity to which the dreams of alchemy, sympathetic medicine, and animal magnetism had passed before it. The dogmatism and arrogance of its advocates are really beginning to be tiresome, and the folly has lasted rather too long." It is twenty-nine years since these sentences were published, and has Phrenology yet gone into the great limbo of vanity to which he endeavoured to consign it?—That his *impressions* of it (they cannot be called *opinions*, for he did not con-

descend seriously to investigate its principles and evidence) were perverted by the antagonism which existed between it and the indigenous perceptions of his understanding, is rendered certain by one brief sentence in the Review. "The truth, we do not scruple to say it, is, that *there is not the smallest reason for supposing that the mind ever operates through the agency of any material organs*, except in the perception of material objects, or in the spontaneous movements of the body which it inhabits; and *that this whole science rests upon a postulate or assumption, for which there is neither any shadow of evidence, nor any show of reasoning*" (p. 267). "*Insects*," he adds, "*continue to perform all their functions after their heads are off!*"

What kind of investigation into the evidence in favour of Phrenology could be expected to be made by a person whose fixed opinions were such as are here broadly and boldly announced? Lord Jeffrey spoke thus unhesitatingly because he believed what he wrote and knew that he was addressing a community whose views, (with few exceptions,) were identical with his own.

The treatment which Dr Gall's discovery of the anatomy of the brain has received from many professional physiologists in England, is, if possible, still more remarkable. They have actually appropriated his anatomy, and sedulously concealed the source from which it is derived. Not only so, but they have ascribed it to another inquirer, in the face of his own testimony that Gall was his instructor! These remarks are supported by historical details given in the Appendix No. III., to which I beg leave to refer.

The value to be ascribed to the rejection of Phrenology by individuals thus prepossessed against it, may be easily estimated. A document entitled

to some respect may be referred to as a proof of the importance now attached to a knowledge of the influence of the brain and nervous system on the mental functions, which, in 1826, was treated by Lord Jeffrey and his admirers as an absurd idea. It was prefixed to a pamphlet on "Criminal Legislation and Prison Discipline," published in 1854.* "We have no hesitation in giving our opinion that the fundamental principle which pervades it (the pamphlet)—namely, *that Criminal Legislation and Prison Discipline will never attain to a scientific, consistent, practical and efficient character, until they become based on Physiology, and especially on the Physiology of the Brain and Nervous System*—is a sound principle; and most strongly entertaining this conviction, we recommend Mr Combe's views to the consideration of all who take an interest in these momentous subjects.

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The majority of these gentlemen are not phrenologists, and do not concur in all the views of the pamphlet; and their opinion is cited as an evidence not of

* Simpkin, Marshall, and Co., London; and MacLachlan and Stewart, Edinburgh.

their admitting the truth of Gall's discovery, but of the change which has taken place in opinion among eminent physiologists concerning the importance of studying the connexion between the mind and the brain. Lord Jeffrey lived long enough to appreciate this progress of opinion, and omitted the above quoted article in the collection of his contributions to the Review, published some years before his death.

But the testimony of these physiologists, viewed merely as expressive of their belief in a general connexion between the mental functions and the nervous system, is still far in advance of public opinion on the subject ; and in consequence, it is nearly as inoperative for good as Gall's doctrines themselves. When presented to the Professors of our Universities, as a reason for their connecting the physiology of the nervous system with their prelections on mental philosophy ; to a bench of Justices, as an inducement to them to conduct prison discipline on the principles of physiology ; or to teachers, as an apology for recommending to them to teach physiology and the laws of health to their pupils, or even to take into their own consideration the dependence of the mental faculties on the condition of the brain, in ventilating their school-rooms, in varying the objects of study, in not overtasking the immature organisms of their pupils, and so forth, the authority of these eminent men is received by many with ridicule, indifference, or stolid resistance. Indeed the result could scarcely be different ; for, generally speaking, the functionaries now referred to *do not know* physiology in such a way as to be capable of applying it. It is with them a *word* or *name* ; and although sufficient for discourse, is not so for action. We *must know a thing before we can apply it to use* ; and we can-

not know it without having learned it, either at school or by subsequent study. Nay, in consequence of the connexion of the brain with the mind not being understood as a practical truth, thousands of intelligent persons on reading the words of this opinion, which are confined to criminal legislation and prison discipline, will be unable to perceive their implied bearing on the whole subject of the influence of the nervous system on the mental powers in every department of life.

A similar reception of the views propounded in this work may be expected from professors and amateurs of art, and for a similar reason. Comparatively few of them have studied Phrenology as a science; they cannot apply it or judge soundly of its applications without knowing it; and in the present state of public opinion, few of them find sufficient inducements to qualify themselves by study for understanding and applying its principles. Before these principles can become practical in any sphere, a new generation must come on the stage, to whom they shall have been taught in schools as elementary truths. And apparently the parents of that generation are not yet born; for assuredly the fathers and mothers of the children now existing, with a few honourable exceptions, strenuously resist communicating to them such knowledge.

One great cause of this repugnance is to be found in the defective education of the parents themselves. Mr Faraday, in his lecture on table-turning and spirit-rapping, raised the veil, and showed how sadly modern education neglects instruction in scientific facts and principles. Generally speaking, even a high education is confined to languages, writing, mathematics, arithmetic, algebra, geography, and religion; and so little

pains have been taken to cultivate the logical faculties, that the young of both sexes enter on the duties of life without consciousness of the extent of their own ignorance, and altogether unaware of the dependence of rational judgment on *knowledge*. In religion, "*faith* is the evidence of things not seen ;" and as many of the so-called educated men and women of this generation see and understand extremely little of the constitution and order of nature, they, with unhesitating confidence, apply "*faith*" as a ground of belief in regard to them also. "Do you *believe* in spirit-rapping?" "Do you *believe* in mesmerism?" "Do you *believe* in phrenology?" "Oh, no!—*I do not believe* in any of these things"—are phrases which one hears every day in society : it rarely occurs to the speakers that according to a rational logic, the question should be, "*Have you studied the principles and evidence*" on which these things are said to rest? If we have not, we should say so, and offer no opinion on their merits. Only *after* study and investigation should we announce our "*belief*," or "*disbelief*," in any alleged natural facts that are new, and not self-evidently true or false.

Such, then, appears to me to be the explanation of the present state of the public mind in regard to Phrenology. Gall's discovery has struck root, and is making hidden and mysterious progress ; but it is not generally studied, understood, or appreciated. If it is true, it will lead to the removal of many errors, and will substitute great practical principles in their place. Moral and intellectual revolutions, however, are never accomplished suddenly. Dugald Stewart has well observed, that the persistence of the human mind in opinions once formed, gives to the institutions of the moral world a permanency analogous to the sta-

bility which the constitution of physical things bestows on *them*; and renders the enjoyments of life tranquil and secure. Had society been ready at once to adopt every new suggestion when offered, even by its most gifted members, life would have been a never-ending revolution; no opinion, institution, or practice, which was in vogue to-day, would have had any certainty of enduring for a year; and change, often without progress, would have been the grand characteristic of existence. As things have been ordered, change, by taking place slowly, is attended with comparatively little inconvenience; and when truth is once established and reduced to practice, it remains for ever immovable.

No phrenologist pretends that Gall's discoveries are perfect: they are far from it, even as augmented and elucidated by his followers; but I am humbly of opinion that, in their great outlines, his doctrines are correct representations of natural facts; and are so far in advance of the general intelligence of Europe, that half a century or more may be required before they shall become really known and be practically applied. The future of Phrenology will probably exhibit a slow and gradual progress of the opinion that it is true and important; and only after this stage shall have been passed, will it be seriously studied as science. Hitherto, this has not been done: the number of those who have bestowed on it such an extent of accurate and varied observation and earnest reflection as is indispensable to acquiring a scientific knowledge of chemistry, anatomy, natural philosophy, or any other science, is extremely small; and the real knowledge of it, on the part of such as continue, through the press and in public lectures, to oppose it, appears to me

scarcely greater than it was in 1815 and 1826. Their language is a little more moderate, but this is the principal change. They have regarded Phrenology with too much disdain to study it seriously ; and feeling assured that they are still addressing a public as little instructed as themselves, they have used unbounded liberties in propounding inaccurate representations of it. So strong is this reliance on public ignorance that even the intelligent editor of the *Encyclopædia Britannica* considered it safe, and perhaps necessary, to reproduce, in his last edition, the same distorted representation of it which was first published in that work thirty-five years ago, although disavowed by every phrenologist, and refuted as soon as it appeared. This is polluting the stream of knowledge at the fountain head, and doing injustice to the purchasers of the *Encyclopædia*, who pay for a representation of Phrenology such as it exists in the minds of phrenologists, and not such as it is conceived to be by an ignorant opponent. What would be thought of employing a Jew to write the article CHRISTIANITY from his own point of view ?

But this state of things cannot last for ever. That it is hollow and unstable is obvious on a little reflection. No intelligent person who rejects Phrenology can lay his hand on any refutation of it, and say, “ *This* is satisfactory ” — “ *That* settles the question.” So much the contrary, that every new opponent assumes the failure of *all* his predecessors, and starts on a new line of refutation himself.

It is with no enthusiastic anticipation of immediate success, therefore, that I offer this small volume to artists and the public. My chief aim is to point the way to future inquirers ; and the object of the foregoing remarks is to assure them that the field is still

open ; that Phrenology is unrefuted, and has not fallen into oblivion ; but that, like all great truths that have been in advance of the intelligence of the age to which they were first presented, "it bides its time," and will richly reward them for a thorough study of its principles and applications.

Henry

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CHAPTER I.

ON THE SOURCES OF THE PLEASURE DERIVED FROM THE FINE ARTS.

IN 1844 I visited several of the collections of pictures and statues, ancient and modern, which present one of the greatest attractions to the traveller in Italy. Being a novice in art, I sought, with avidity and humility, for criticisms by connoisseurs and masters, to form and guide my own judgment concerning the merits of the works which I examined. I found abundance of *opinions*, forcibly and often eloquently expressed, concerning the excellencies and defects of particular productions; but I discovered few books in which *reasons* were given, or principles stated, for the judgments pronounced. Many of the critics recorded little more than the *impressions* which the pictures and statues had made on their own minds. When they were men of high natural endowments, and enjoyed the advantages of cultivation, their *dicta* appeared to me to be, in general, sound and valuable; but, nevertheless, they were *mere opinions* still, and, by conversation with other observers, I discovered that they were appreciated differently by different minds.

The Germans have infused more philosophy into their dissertations on art than any other people. In Kugler's works, and in the productions of other German authors, *reasons* are more frequently stated *why* such and such judgments are formed, than in English books: but even in the German, few first principles are traced to universal facts or laws of human nature; in other words, few *scientific* foundations are laid for the superstructure of opinion presented to the reader.

These remarks will not be new to any one conversant with criticisms on art ; and it is not difficult to trace the cause of this condition of the philosophy of painting and sculpture. The object of these arts is to represent, by means of form and colour, the most interesting and beautiful productions of Nature, invested with their highest attributes. Until the things themselves be scientifically understood, the science of representing them will remain imperfect. The landscape-painter who is ignorant of geology, often fails in representing the true character of fore-grounds and mountains ; and one who knows nothing of botany is liable to paint trees, shrubs, and herbage after a general pattern, omitting or confounding their distinctive features.

The human mind and body are the highest objects with which the painter and sculptor have to deal ; and while the faculties of the one and the organs of the other are not scientifically known, correct representation of their combined effect must be extremely difficult. While, for example, the relations between mental endowment and corporeal form and expression are not ascertained, the rules of art, and the principles of judging of art, must, to a corresponding extent, remain empirical. The key to the science of human nature is to be found in Physiology. The brain and nervous system are the organs by which mind is manifested in this life, and, in so far as art is concerned, the other portions of the human frame are merely its executive instruments. It is mind which gives to them their character and charm. The physiology of the brain and nervous system by developing the science of mind, and general physiology by unfolding the structure and functions of the other portions of the body, will enable the artist to understand the relations subsisting between particular mental endowments and particular corporeal forms, expressions, and qualities, and this knowledge should furnish one element towards constructing a philosophy of art.

There are an internal world and an external world in regard to man, admirably adapted to each other. The eye, in its normal state, possesses precisely that degree

of power and intensity of function, which makes every visible object appear to the best advantage. It enables us to see that which contributes to our welfare, and unfits us for seeing much that would disgust or annoy us. When we increase the intensity of vision by the help of a powerful microscope, the cheek of beauty becomes coarse, and the water of the crystal stream is filled with impurities and life. And this is also the case with the ear and the organs of our other senses. The sound which, to the ear in its normal condition, is soft, clear, and pleasing, appears loud, indistinct, and grating, when the intensity of the function is increased by inflammatory disease. The converse of these propositions also holds true. When the eyes become abnormally feeble, we cease to distinguish the finer qualities of external objects; and when the ear decays, we become insensible to the more delicate modulations of sound.

The same exquisite adjustment is found between our internal faculties and the external world. The man whose brain is characterized by an exalted temperament and large size, perceives and feels many qualities of external objects, to which an individual of a dull, lymphatic, and deficient brain, is insensible. But as the brain consists of a congeries of organs, if we suppose the temperament to be the same in different persons, the range as well as the intensity of any class of feelings and perceptions will depend on the degree in which the particular organs related to that class are developed in the brain of the individual. Thus, if the temperament be highly nervous and sanguine, and Ideality be large, all nature will reflect beauty to the mind. If, in another individual possessing the same temperament, this organ be small, he will be blind to the exquisite visions of loveliness which captivate the soul of his more gifted neighbour.

Every spectator sees a picture in his own way, and he perceives its different elements with a degree of vivacity and interest corresponding to the development and cultivation of his own mental faculties. The individual who has a low quality of brain, and a small development of the organs of Form, Colouring, and Ideality, will be little affected by

beautiful forms and colouring, or even by fine expression ; but if he have much Individuality and Imitation, he may be greatly gratified by minute and successful representations of objects with which he is familiar. If another have large organs of Ideality, Causality, and Comparison, with a high temperament, but be deficient in Individuality and Imitation, he may despise imitation as an object of art, and demand grand general ideas, expressed in corresponding forms and colours. A spectator in whom any organ or group of organs is large, will recognize and feel interested in the natural language of the corresponding faculties, as it is expressed in the face and attitudes of the figures. Hence, men in whom the base of the brain, the intellectual organs, and those of Ideality, are large, and the coronal region deficient, sympathize with, and delight in, what they call the fine vigorous manly characters of pirates, banditti, boors, and outlaws : they are interested also by pictures representing tortures, slayings, and other horrors of human action and suffering ; while the truest, most lively, and (to differently constituted men) most captivating expression of the moral sentiments appears to them comparatively flat, stale, and unprofitable. If this combination of the organs of the propensities and sentiments be reversed in the spectator, the latter qualities will challenge all his sympathies, while he will turn away with aversion from the former representations. He will possess a tact or instinct, by which he will recognize and appreciate certain moral characteristics, in living man and in pictures and statuary, to which an individual deficient in the coronal region will be nearly blind. The latter may see them, because he possesses the moral organs to some extent ; but his mental sympathies will be as limited as his cerebral development, and his interest will be low in proportion to it.

The same remarks may be applied to the individual organs : Each acts spontaneously when representations of its own objects are presented to it, and then it gives rise to its own emotions and impressions. When the impressions are agreeable, we call the objects beautiful ; when disagreeable, we

condemn them as plain or ugly; and when indifferent, we call them insipid. Hence, most persons have some instinctive taste for the fine arts; but it is obvious how each should form a judgment concerning them in some degree peculiar to himself, corresponding to his own special combination of organs, and his opportunities of mental cultivation. If he be unacquainted with the physiology of the brain, and the mental philosophy of which it is the basis, he will, through the want of definite principles common to himself and others, and also through ignorance of his own peculiar constitution, and of the relations of art to the different combinations of faculties which occur among men, find it difficult to convey to other minds the impressions which he receives from particular works of art, and will meet with a corresponding difficulty in understanding the foundations of their opinions concerning the qualities which gratify or offend them. His judgments in art will, therefore, be essentially empirical;—they will be founded on his individual impressions much more than on general or universal principles.

The impressions which objects, and artistic representations of them, make on the different faculties, constitute the elements of that natural pleasure in the fine arts which is common, more or less, to all men; but an additional source of interest is derived from the contemplation and appreciation of the skill employed in the execution of works of art. This pleasure, however, is confined to those who either possess great natural talents for art, or have made the technical details of it a subject of study. Any man with a correct eye may tell when a ship exhibits a beautiful model; but a practical shipbuilder will appreciate many difficulties overcome in attaining the precise forms and proportions which produce its elegant appearance, and he will also perceive in the timber and workmanship many qualities to which the uninitiated eye is blind. In the fine arts, drawing, colouring, and grouping or composition, are the *means* by which the artist's conceptions are ushered into being; and to turn them to the best account requires special artistical talents, combined with great experience and judgment.

The artist, therefore, who has personally competed with and overcome the technical difficulties of drawing, colouring, and grouping, regards a work of art with an initiated eye; and while the ordinary spectator is impressed only by the work itself, he is deeply interested in the means and skill by which it has been produced. Certain amateurs who have studied the technicalities of art participate in these feelings; and frequently a large share of their admiration of particular statues and pictures is referrible to this source of pleasure, irrespective of the intrinsic merits of the work, as calculated to impress the general faculties of man.

The defects of many treatises on the fine arts, and of many criticisms on pictures and statuary, may be traced to their authors' failing to discriminate and point out the different sources of the interest which they ascribe to the works criticised. Each praises what pleases, and blames what is disagreeable to himself, too often without assigning a reason; and not unfrequently when he does mean to give one, it turns out to be no reason at all, but an announcement of a mere impression made on his own mind by the work of which he is treating.

The object of the present essay is to attempt to apply Phrenology in removing some of these sources of perplexity and error; and I beg leave to state, in a few words, the point at which we have arrived in our investigations.

Phrenology may be useful, *first*, in helping the observer to distinguish the character of his own mind, and to appreciate its powers and qualities as an instrument of observation and judgment in art. This knowledge may save him from condemning works on which his powers are not well fitted to decide, and also from supposing that men in general will necessarily approve of all the works which *he* highly admires, seeing that his approval may be the consequence of their relation to a combination of faculties peculiar to himself, or to the class of minds to which he belongs.

Secondly, It may be useful in enabling him to analyze and understand the different kinds of interest which may be felt by the same, or by different individuals, in painting and sculpture. These appear to me to be the following:—

1st, The interest which arises from a knowledge of the manipulations necessary to attain success in drawing, modelling, and colouring; and an appreciation of the difficulties which must be surmounted in applying these means to the production of works of art.

2d, The interest which arises from beauty of *form*, as addressed simply to the faculty of Form.

3d, The interest which arises from beauty of *proportion*, as addressed simply to the faculty of Size.

4th, The interest which arises from beauty of colouring, as addressed simply to the faculty of Colouring.

5th, The interest which arises from grouping or composition, as addressed simply to the faculties of Locality and Order.

A work of art may possess these qualities in a high degree, as is evinced by some of the pictures of Andrea del Sarto, and nevertheless be deficient in the last and greatest source of pleasure, namely,—

6th, The interest which arises from the work as a vehicle of expression—as embodying the natural language of human propensity, sentiment, and intellectual power.

This last interest engages the whole faculties of man, and its production is, in my opinion, the highest object of art.

Sir Joshua Reynolds has said,—“ We are sure from experience that the beauty of FORM *alone*, without the assistance of *any other quality*, makes of itself a great work, and justly claims our esteem and admiration.” Applied to painting and sculpture, this remark appears to me to be only partially correct, and, even in relation to architecture, to be defective.

The external objects with which art is concerned possess three attributes—Form, Proportion, and Colour. The human mind takes cognizance of these through the instrumentality of certain organs,—the eye, for instance, receives the impression of the light which they reflect from their surfaces, and transmits it to the brain, and there its functions end. The perfection or imperfection of the structure of the eye

will modify the force of the impression received, but, if the organism be healthy, it will not alter its character. Thus, individuals having long or short vision see the qualities of objects in the same way.

A special part of the brain receives the impressions of each of the qualities of external objects transmitted by the eye: thus, there is an organ of Form—an organ of Size, which takes cognizance of magnitudes and proportions;—and an organ of Colouring. On these depend the pleasures derived from the *second*, *third*, and *fourth* sources before named.

Definite relations have been established by nature between the qualities of external objects and these mental organs, in virtue of which the qualities are intuitively perceived when the objects are presented; and certain mental feelings are produced by them, pleasing or displeasing—or indifferent. The latter probably arises from an equal balance between the agreeable and disagreeable impressions.

The more perfect each organ is, the more perfect are the impressions which it receives. The fundamental element of power in each organ is its size. If it be very small, the quality in nature to which it is related is very imperfectly perceived; thus—there are individuals who are more or less blind to colours. It is not generally known, but it is equally true, that there are individuals who through deficiency in the organs of Form and Size are defective in their powers of correctly perceiving forms and proportions. Large size in the organs, increases the intuitive power of each; so that the qualities of the objects directly reveal themselves to individuals possessing these organs largely developed with a distinctness and accuracy corresponding, *ceteris paribus*, to the size of the organs.

The effects of size in the organs are increased by a fine quality of brain (temperament), and by exercise and cultivation.

These organs not only receive but serve to remember the direct impressions made on them by the qualities of external objects; but they do not judge of their relations. Thus, the organ of Form does not enable us to judge of the relations

of forms to proportions ; for the form of an object, a parallelogram, an oval, or a column, for example, may be the same and the proportions of its parts different : The organ of Colouring does not enable us to judge of the relations of colours to any thing except colours ; and a similar remark applies to the organs of Form and Size. All relations between form, proportion, and colour, and our other mental conditions, emotional and intellectual, are judged of by means of the organs of Comparison and Causality. Thus Comparison can compare a colour and an emotion, and perceive that yellow, pink, and white are more in accordance with gaiety and joy, than black, drab, or dark blue ; it can compare a certain form and combination of features with the emotion of grief, and perceive the relation between them ; and the relation of another form and combination of features to joy, and so forth. These relations between certain forms, proportions, and colours, and certain mental states, are also natural, and are intuitively perceived when the respective organs are adequately developed and active. The organ of Causality serves to enable us to discover, and to carry into execution, the means of applying these relations to practical purposes. Thus, an individual with large and active organs of Form, Size, and Colouring, but small organs of Comparison and Causality, may be a master of form, proportion, and colouring, but he will be liable to fail in applying them to express great emotions or ideas. They will be wasted on small conceptions and meaningless combinations.

In addition to these organs there are organs of Locality, Order, Constructiveness, Imitation, and Ideality, which bear reference to art ; but I must refer to the works on Phrenology for an account of their spheres of application. Suffice it here to say, that Ideality produces a pleasing emotion of great purity and intensity when objects are presented to us which gratify the intellectual artistic organs before described ; that it gives a longing desire for beauty of every kind, and prompts us to aim at the highest perfection which our faculties are capable of reaching. When it is deficient in size, this delight in beauty is not felt, or is con-

finer to the lower intellectual pleasure which accompanies the activity of large organs of Form, Size, and Colouring. When it is large, the love of beauty rises almost to a passion. To return to the proposition of Sir Joshua Reynolds in regard to form, I observe that the perceptions of the beautiful in forms and proportions is intuitive, when the related organs are adequately developed and active. An Etruscan vase, for example, of exquisite form and proportions addresses itself *directly* to these faculties. The more perfect its form and proportions are, the more completely is it adapted to their constitution, and the more pure and perfect is the delight in surveying it. In Rome there is a single Corinthian column, taken from the ancient Temple of Peace, and now erected on a pedestal near the Church of Santa Maria Maggiore, where it exhibits its entire outline against the sky. Nothing can be more captivating as an object of mere form and proportion. Words can neither define nor express the precise lines and dimensions which communicate this pure and vivid pleasure; but the faculties above named *can feel the effect* and perceive the existence of the cause. Sir Joshua Reynolds is quite correct in describing form as a source of pleasure; but the pleasure may be called elementary, and it will be greatly enhanced if the proportions also are beautiful. This pleasure is felt most strongly by those individuals in whom the organs before named are most largely developed and most highly cultivated. Artists belong to this class; and they, for the most part, ascribe more importance to the beauty of mere form and proportion in works into which *expression* also should enter, than the cultivated public generally do. In the vase and column, forms and proportions evolving beauty are the alpha and omega of the composition. If they are present, and the beauty is felt, the mind desires no more. But the case is different in a statue. Forms and proportions are here subordinate to expression. They are to the statue what single words are to a poem—the mere elements, by the combination of which mind may express its grandest conceptions of *mind* as well as of matter.

The pleasures derived from ARCHITECTURE arise primarily from the gratification afforded by artificial structures to this group of organs, along with those of Constructiveness and Ideality. Since the days of the Greeks, architects have relied on their powers of intuitive perception for discovering those forms and proportions which Nature has invested with the quality of the beautiful; in ignorance of any definite laws which she follows in conferring this quality on objects, also of the existence of cerebral organs related to these qualities, and of the effects of large and small size in these organs on their powers of intuitive perception. In consequence, the practice of architecture has been empirical; and as the natural forms and proportions which impress the mind with emotions of the beautiful are intuitively revealed only to individuals possessing *all* the related organs in a very high degree of excellence in development, constitution, and cultivation, really beautiful structures are rarely to be found.

It is the combination of exquisite forms with fine proportions which constitutes the charm of St Paul's Cathedral in London and St Peter's in Rome. The old Palace of Whitehall in London may be contrasted with the Treasury Buildings on the opposite side of the street, as an example of the necessity of both qualities to produce the highest effects of grandeur and beauty. Whitehall Palace stands on a raised basement which by mere elevation adds a degree of grandeur to its effect; whereas the classical and beautiful forms of the Treasury Buildings are deficient in that air of grandeur which a lifting up of their base would have given them. They appear, as has been wittily observed, to be making a graceful courtesy to their more majestic neighbour.

In many modern edifices, I have seen the effects here ascribed to an unequal development of the organs of Form and Size in the architect, conspicuously displayed. The National Gallery in Trafalgar Square, for example, presents an instructive illustration in point. The *forms* of the front are not displeasing; but the *forms* of the domes are execrably mean, while their *proportions* in relation to the gallery are indescribably offensive to persons in

whom the organs of Size and Ideality are well developed. In contrasting the architecture of the Rue Rivoli in Paris with that of Regent Street in London, the beauty of *proportion* in the former, and the deplorable want of it in the latter, will strike most cultivated observers. The upper portions of the fronts in Regent Street, are, in general, deficient in height, and mean in form ; while beauty of form and grace in proportion, characterise the structures in the French capital, particularly in the palaces at the western extremity of that street.

In the winter of 1853-4, the citizens of Edinburgh were edified and excited by the efforts of Mr Ruskin to persuade them that the admiration of Grecian architecture, which has prevailed for the last two thousand years, is a gigantic aberration of human taste and judgment, and that they would do well to pull down their Grecian walls and windows, and rebuild them in Gothic forms. In Munich such speculations receive a ready and a decisive answer. There, Grecian, Byzantine, and Gothic forms stand in close proximity to each other, and each is beautiful. There we find demonstrated by actual examples, the great truth that beauty and grandeur are the creatures or the satellites of no particular style ; but that certain forms, proportions, and relations of parts have been constituted by nature to excite emotions of grandeur and beauty in the human mind, and that it is the mission of genius to discover these and to embody them in palpable structures. The new Palace of Munich "der Königsbau," adjoining the theatre, is, in style and ornament, simplicity itself, and a close imitation of the Pitti Palace in Florence. An inferior artist, by lowering the dimensions and proportions (the front is 430 feet long and 105 feet high), yet preserving the forms, might have produced a mean monstrosity ; whereas the mind of genius, by combining great general dimensions, with fine proportions in details, has devised a work which, by its instantaneous effect, gratifies the perceptive faculties, while yet the judgment is puzzled to discover what are the elements which excite such an unexpected pleasure. Another palace, called

the Wittelsbacher Palais, affords a similar example of what fine dimensions and proportions may accomplish independently of ornament or expensive materials. It is 260 feet long, 224 broad, and 110 feet high, and is constructed of red brick. Its style is mediæval English, with pointed windows; there is a grandeur, a classic chastity of proportion, and a general elegance of form about it, that speak forcibly to the imagination, and produce the feeling that elaborate ornament would be here altogether out of place. King Ludwig makes it his home when he visits Munich, having given up the Royal Palace to his son, the reigning Sovereign. There also are several exquisitely beautiful Grecian façades; while the purest Gothic rejoices the eye.

The most interesting street in Munich is the "Ludwig's Strasse," now completed. Its chief characteristics are grandeur and beauty. The buildings are in every variety of style, their materials are different, and they vary in colour; yet harmony enhances their effects. The street is as long as the eye can distinctly command; it is of great breadth; the public buildings and private dwelling houses which constitute its two lines, are of great height; and at its western extremity stands a vigorous and classical triumphal arch, surmounted by a noble statue of Victory seated in a car drawn by four lions that seem alive.

I walked and drove slowly along this street to discover what combination of architectural qualities gives it its peculiar effect. I saw it gilded by the rays and deepened by the shadows of a rich setting July sun, and received a strong impression of the poetry of architecture. I felt that it refuted Mr Ruskin's speculations, but I could not penetrate into the secret of its influence. I have since, however, consulted the works of Mr D. R. Hay, and have found what appears to me to be a highly probable solution of the problem. He remarks that "the basis of the science of beauty must be founded upon fixed principles, and when these principles are evolved with the care which has characterized the labours of investigators in natural science, and are applied in the fine arts as the natural sciences have been in the useful arts, a

solid foundation will then be laid not only for correct practice, but also for a just appreciation of productions in every branch of the arts of design."—"My present attempt," he continues, "is, therefore, by a *resumé* of the various works I have already published upon the subject, along with additional demonstrations, to endeavour to point out a system of harmony which, in the formative arts, as well as in that of colour, will rise superior to the idiosyncracies of different artists, and bring back to one common type the sensations of the eye and the ear, thereby improving that knowledge of the laws of the universe which it is the business of science to connect with the ornamental as well as with the useful arts."

In pursuance of this idea, Mr Hay, in his various works, has shown the laws under which certain forms always impress us with the sentiment of beauty, and those under which certain proportions in forms constantly please; and the reverse. He traces back the knowledge of these laws to Pythagoras, and gives strong reasons for believing that they were known to the artists generally of Greece, although subsequently lost. They are applicable to every art which deals with form and proportion,—to architecture and sculpture, and to the formation of all works of ornament and utility. In his work on "The Harmonic Law of Nature applied to Architectural Design," he shows the application of his principles to the Parthenon, and to the Gothic architecture of Lincoln Cathedral; and actual measurements of the Parthenon correspond with his principles to such a degree of close approximation, that it is difficult to resist a conviction of their soundness. He holds that men of high genius have had an intuitive perception of the natural forms and proportions of which his principles are a scientific exposition, and that, under this illumination, they have embodied them in their works. These views appear to me to be sound, and if we had exact measurements of the area and buildings which compose the "Ludwig's Strasse," and if Mr Hay's scale of harmonic and discordant proportions were applied to them, we should probably no longer remain in doubt as to the cause of the pleasurable emotions they pro-

duce. They might not be found, perhaps, to stand the test of such an examination so thoroughly as the Parthenon has done; because apparently Greek architecture was constructed in conscious knowledge of the rules, while modern architects have been guided by their own intuitive perceptions of nature, aided by the examples left by their better instructed predecessors; but still I should anticipate in them a nearer approach to the principles in question, than would be presented by the measurements of most of our London streets and public edifices.

It would be foreign to the design of this work, to enter into an exposition of Mr Hay's "Harmonic Laws;" nor is this necessary, as his works are well known and easily accessible, and his rules are simple and comprehensive. I add, therefore, only one other quotation, to guard against misapprehension of the relation in which he considers his rules to stand to the practical workings of genius. "I beg," says he, "it may be understood that I do not believe any system based even upon the laws of nature capable of forming a royal road to the perfection of art, or of 'mapping the 'mighty maze of a creative mind!' At the same time, however, I must reiterate the fact, that the diffusion of a general knowledge of the science of visible beauty must afford latent artistic genius an important vantage ground, just such a vantage ground as that which the general knowledge of philology, diffused throughout this country, affords its latent literary genius. Although *mere learning* and true genius differ as much in the practice of art, as they do in the practice of literature; yet a precise and systematic education in the true science of beauty must certainly be as useful in promoting the practice and appreciation of the one as a precise and systematic education in the science of philology is in promoting the practice and appreciation of the other!"

In regard to the *fourth* source of pleasure in art, viz. Colouring, I remark, that the delight experienced from contemplating coloured objects bears a relation to the size

and constitution of the organ of Colouring. In some individuals this organ is so deficient as to render them incapable of perceiving certain colours; and in other cases in which its imperfection does not reach this extent, it is not unfrequently so great as to produce insensibility to the finer differences of tints, and greatly to lessen the direct pleasure derivable from colours. When the organ is largely developed, finely constituted, and duly exercised, the natural attributes and relations of colours which produce the pleasing impressions of the beautiful are intuitively perceived.

I have seen two instances in which individuals possessing a large development of all the cerebral organs necessary to success in art, except that of Colouring, chose art as a profession, in unconsciousness of the existence of a defect in this organ and of the consequences of it. One of them, in whose head I had remarked the imperfection before I had seen any of his works, sent several landscapes to an exhibition, wholly unaware that there was anything peculiar in his tints, when he learned that his colouring was so very defective as to excite astonishment in the spectators. The other artist had early discovered his own imperfection, and devoted himself to representations of the interiors of churches, prisons, cathedrals, and similar scenes, in which correct drawing, excellent perspective, and good composition, combined with sombre colouring, produced successful pictures, and he avoided all scenes and objects that required strong, delicate, or harmonious tinting.

Dr George Wilson, in his work "On the Prevalence of Chromato-Pseudopsis or Colour-Blindness," cites two similar cases. "My friend Mr John Crombie Brown," says he, "is acquainted with a party, S. N. (known also to Alexander Christie, Esq., A.R.S.A.), who has a fine eye for form and outline, but is markedly colour-blind."—P. 58.

Another individual was remarkable for the direct reversal "of red and green," although he had the colours "before him to compare, both on his palette and on the arrows," (which he was employed to repaint). "Yet the party who com-

mitted this mistake was an excellent draughtsman, much esteemed by his master, and surrounded at his daily work by splendid specimens of stained glass."—P. 114.

These differences in the power of perceiving colours have been long known, and have generally been accounted for by supposed defects in the retina or other parts of the eye. But no satisfactory physiological evidence has been produced to connect them with any portion of the eye; and I venture to predicate that whenever scientific inquirers shall observe accurately the organ of Colouring, they will discover that the phenomena are connected with a defective development of that particular part of the brain.*

In considering colour in relation to art, the first object is to ascertain the number of primitive colours, and the conditions under which they appear in their purest states. The second object is to discover the laws of their harmonious combinations; for colours which are pleasing separately may become offensive by incongruity in their arrangement. The sciences of optics and chemistry have placed the first branch of the subject on a solid and satisfactory basis, and a number of ingenious works have been published throwing light on the second. One of the latest of these is "*The Principles of Harmony and Contrast of Colours, &c.*," by M. E. CHEVREUL, translated by CHARLES MARTEL,† which has been called "the Euclid of colour." The *Critic*,‡ a London journal, which pronounces this opinion, proceeds to observe that "the sight of coloured objects harmoniously assorted contributes so largely to our enjoyment of the works of nature and of art, that we are stimulated to omit no opportunity of becoming acquainted with the means by which this harmony is secured. Some favoured individuals possess an 'eye for colour,' which, like an 'ear for music,' is the result of a peculiar organisation. Of such were Rubens, Raphael, Titian, and our own Turner, who, following a kind of instinct, were enabled to enrich the world with examples

* Dr George Wilson has published a valuable work on this subject, noticed in the Appendix, No. I.

† London—Longman & Co.

‡ 1st January 1855.

of harmonious colouring, beside which most others look pale and ineffectual. To the less gifted such result is attainable only when the artist possesses a knowledge of the principles which govern the phenomena of contrast of colours.

"These phenomena, so little understood or even suspected by the legion of artists daily occupied with coloured materials, are deeply interesting, not only to them, but also to the general observer, since they afford a striking instance that the evidence of our senses is not always to be believed, unless we are at the same time cognisant of the *law* which governs the phenomena."

These remarks are essentially sound; but Mr D. R. Hay also has made highly valuable contributions to the science of the harmony of colours. In his "Principles of Beauty in Colouring systematised," and "A Nomenclature of Colours applicable to the Arts and Natural Sciences," and other works, he has presented the artist with scientific principles of great practical utility. He does not pretend that these rules form a substitute for genius in colouring; or, as I should express it, for that intuitive power of perceiving the qualities and relations of colours and applying them in art, which is given by a large and finely-constituted organ of Colouring. It is conceded that nothing can supply the place of this gift where nature has withheld it; but even those who enjoy it in its highest degree, and still more those who, although respectably endowed, fall short of it in perfection, will find scientific rules advantageous as guides in the exercise of their intuitive power. Although great geniuses, by obeying the impulses of their organisms, frequently embody much scientific truth in their works, while intellectually ignorant of the science they practise—as the beaver and the bee obey the laws of science without knowing them, in constructing their habitations and their cells,—still, as I shall afterwards endeavour to show, their intuitions occasionally fail them, or they are led astray by unsound external solicitations and examples, and fall into errors from which a knowledge of science might have preserved them. It has

been said that some shipmasters have crossed the Atlantic successfully without the aid of a compass, guided solely by their intuitive perceptions of their positions in the ocean drawn from observations of the sun, moon, and stars; but no one will question the benefits which even such geniuses, and much more so, ordinary men, would have derived from the aid of that instrument and the scientific rules of navigation. Young artists, not relying on their own intuitive powers of discovering the rules and practice of harmonious colouring, study the works of the great masters to draw instruction from them. This is highly useful and commendable; but I beg to remark that these great masters, by means of their own high endowments, merely *discovered*, and did not *create*, the qualities and relations of colours which they embodied in their works. All of these existed, and still exist in nature, and it is therefore quite reasonable to affirm that they may be discovered as natural scientific truths. This Mr Hay and others have done with greater or less success, and artists using the best scientific rules as guides in studying the colouring of their distinguished predecessors, will penetrate into the secret which these great men mysteriously possessed, but which was not revealed even to themselves.

This intuitive power of recognising the qualities and relations of natural objects is possessed by each of the intellectual faculties when its organ is very large and finely constituted. Mr George Bidder, at eight years of age, perceived intuitively the relations of extensive combinations of numbers, and announced the results in incredibly short spaces of time. I often saw him do so, and tested his accuracy by giving him questions from books, the answers to which were also set down in the works, and I never saw him fail; but he could give no account of the process of reckoning by which he accomplished these feats. The rules and practice of arithmetic are, to ordinary men, the substitutes for his extraordinary endowment; and scientific rules will be equally serviceable to average students in art. These, I repeat, expound the *rationale* of the mental

action which, in their great models, was to a great extent intuitive; and will enable them to read nature directly for themselves, using their predecessors as instructors in manipulation and composition, but no longer as primitive fountains of knowledge in the elements of art.

I wish it to be distinctly understood that in ascribing intuitive powers of perception to the intellectual faculties, I do not exclude or undervalue the necessity for education and training. The intuitive power is the fundamental element of all high attainment, but it must be cultivated and instructed to enable it to produce its best effects.

Some individuals find great difficulty in drawing perpendicular lines. It has been observed that such persons, and also bricklayers and masons who cannot preserve the perpendicular in the walls they are building without incessant application of the plummet and the square, have the organ of Weight and Momentum, which takes cognizance of gravitation, imperfectly developed. In some pictures I have remarked a palpable want of the expression of gravitation in objects which required it. In a landscape which I saw in an exhibition at Düsseldorf, the trees, although well painted in point of form and colour, were painfully deficient in their relationship to the ground. They did not gravitate, but leaned loosely, and in different directions, as if their substance were absent, and only the bark and leaves were left. They appeared to be *stuck* in the soil, and not to grow from or to be firmly rooted in it. I have seen, in other instances, well-drawn castles and rocks, that gave one the impression of being made of pasteboard or some light material. In other works, again, we find the quality of solidity in every object which nature has made heavy, and of lightness in those which are light, represented with surprising fidelity and success. I have not had opportunities of observing the heads of artists who displayed these different qualities, but consider it probable that the development of the organ of Weight and Momentum will be found to differ in them.

The *fifth* source of pleasure in pictures and statuary

arises from grouping or composition. The talent for composition depends on a favourable development of both the perceptive and reflective organs. If the perceptive organs are deficient, there is a defect in the power of symmetrical and harmonious physical arrangement of objects in space; while, if the reflecting organs, Comparison and Causality, are deficient, the artist is blind to the relations of situation to purpose in the actors whom he introduces. He places the figures in situations ill adapted to the work he assigns to them,—an error destructive at once of harmony of design and unity of interest.

The *sixth* and last source of interest in a work of art is that which arises from expression, or from faithful, forcible, and beautiful representation of human propensity, sentiment, and intellectual power. Expression is addressed to the whole faculties of man, and constitutes, in my judgment, the highest object of the arts of Painting and Sculpture. It is nevertheless the least understood, and although most prized by ordinary observers, whether cultivated or uncultivated, it is not always the most highly appreciated by artists and amateurs. Some of these, owing to a defective development of the organs of the feelings in their own brains, are cold in their emotional nature and little sensible to the expression of the affections; while others, from the predominance of the artistic organs, are captivated by the artistic elements in pictures, and attach a relatively inferior importance to expression. In consequence, also, of the want of a philosophy of human nature founded on physiology, neither the mental nor corporeal elements which constitute expression are scientifically comprehended.

CHAPTER II.

OF PROPORTION AND EXPRESSION IN THE HUMAN FIGURE.

WE have already considered the general subject of Form as a source of pleasure in the fine arts; and in regard to proportion, Mr Hay remarks that "by being instructed in the science of proportion, the Greek artists were enabled to impart to their representations of the human figure a mathematically correct species of symmetrical beauty; whether accompanying the slender and delicately undulated form of the Venus,—its opposite, the massive and powerful form of Hercules,—or the characteristic form of any other deity in the heathen mythology. And this seems to have been done with equal ease in the minute figure cut on a precious gem, and in the most colossal statue." Mr Hay has rediscovered the science here alluded to, and laid down its principles, which he illustrates by applying them to the figures of the Venus and Hercules. I refer the reader to his pages for instruction on this interesting subject, but observe, that although, strictly speaking, *expression* is in sculpture the result entirely of form and proportion, there may be combinations of form and proportion which minister pleasure only to the organs of Form, Size, and Ideality; and there are other forms and proportions, or other combinations of form and proportion, which, while they may equally gratify the former organs, also awaken the emotional and intellectual faculties. To perceive and realize the latter class, is the highest object of art: by this means *expression* is imparted to the work.

In sculpture, form and proportion may be viewed as analogous to melody and time in music. Melody and time are in themselves pleasing, because they are addressed to and

agreeably excite the organs of Tune and Time ; and beautiful forms and proportions are addressed to, and produce a corresponding effect on the organs of Form and Size. But all of these are mere elementary sources of pleasure. Time in music is analogous to proportion in forms ; we bring together in the one instance, sounds, and, in the other, forms, the proportions of which are accordant. But forms and proportions, and also notes, stand in such a relation to the other mental faculties that they are capable of expressing their activity. Harsh low tones express the activity of the animal propensities ; they are their natural language ; and it is said that lions and tigers become excited and enraged when they hear them. Soft and rich tones are the natural expression of the moral sentiments ; while clear cold silvery notes express intellectual conceptions. Now, I believe that I am justified in saying, that when a musical composer, to the purest and richest melody, and the most perfect harmony, adds forcible and clear expression of the various mental states which agitate and delight the soul, he realizes the grandest aims of his art ; and that, of all these attributes, the last is the highest and most powerful in its effects. Melody, harmony, and time, when expression is omitted, may delight connoisseurs and *artists* in music, in whom the organs of Time, Tune, and Comparison are highly cultivated, who appreciate difficulties in composition and execution, and admire skill in surmounting them : but a general audience brings to a concert only the propensities, sentiments, and intellectual faculties in their common state of cultivation and activity ; and as the propensities and sentiments are by far the most active and influential of all the faculties, expression of emotion is required deeply to interest and delight them. In like manner, while beauty and proportion of form will gratify the connoisseur and artist, and all in whom the organs of Form, Size, and Ideality are large and well cultivated, they, if standing alone in statuary or painting, will fail to rouse emotion or excite vivid pleasure in the spectators generally. The reason of this is obvious. Form and proportion, besides their elementary powers of pleasing, are

also, like melody and time, instruments of expression. For instance, Retzsch's illustrations of Shakspeare, and Flaxman's designs, in addition to great purity and grace of form, embody sentiment, emotion; and intellectual power. They are outlines, presenting assemblages of forms and proportions expressive of mental qualities and emotions. If, then, forms and proportions are instruments of mental expression, I ask, on what principle can it be maintained that they, in their elementary condition, can ever accomplish as much in art, as when, with all their intrinsic excellences undiminished, they are also made to express the loftiest conceptions and emotions of the mind?

If to the same beauty of form, therefore, be added an equally perfect expression of high mental qualities, the pleasure is increased to an extent as great as that to which the interest excited by powerful emotions and profound thought exceeds that elicited by mere matter, even when clothed in its most perfect forms and proportions. Anna Mary Howitt has well said,—“Let such of us as have devoted ourselves to the study of an art—the interpreter to mankind at large of God's beauty—especially remember this, that the highest ideal in life as well as in art, has ever been the blending of the beautiful (in form) and the tender with the strong and the intellectual,”* (in expression.)

This truth is recognised also by Kugler, who, in speaking of the school of painters named *Naturalisti*, from their copying nature too servilely, says,—“The forms which they bring before us are not those of nature in a refined state, like those of the great masters in the beginning of the sixteenth century—a nature in which beauty is the evidence of moral harmony, and the feelings of love or hatred seem the indications of a godlike energy.”† There is profound truth in this remark; but I find that, while an indefinable quality, called “character,” is highly appreciated by critics and modern artists, some of them sneer at works expressing individual or combined emotions, or distinct intellectual action. The un-

* An Art Student in Munich, vol. ii., p. 200.

† Hand-Book of Painting, p. 413.

initiated public and such persons are at open war on the merits of works of this kind. For example: there was in Imhoff's studio in Rome, a group of Hagar and her son in the desert, which tells the story of her sufferings in the most pathetic manner. The son lies extended at her feet, supporting himself on one arm, and with the other presents a vessel to his mother, imploring her for water. The earthen bottle, in which she had carried this necessary of existence, hangs in her hand with the neck downwards, indicating that the last drop is drained. The boy is dying from thirst and exhaustion, and the mother stands beside him, the very personification of maternal affection, almost sinking under despair. Unsophisticated yet educated women have wept in looking on this group; but some artists condemn it as a work belonging to a low style, aiming at creating interest by an appeal to common, not to say vulgar feelings, instead of resting its claims exclusively on beauty of form and proportion. I do not pretend to decide on the abstract artistical merits of this group, but introduce it merely as an illustration; (confessing, however, that it deeply interested me); and adding, that while I consider mere mental expression, *without* purity and beauty of form, to be far short of the highest merit in a picture or statue, yet I cannot place *form alone*, without expression, above it. The combination of the two qualities is necessary to constitute a perfect work. This truth will be admitted in words by many artists who aim at practising it; but generally speaking, modern Italian painters and sculptors bestow more attention on beauty of form and proportion, than on expression.

CHAPTER III.

OF THE CONSTITUENT ELEMENTS OF EXPRESSION IN
PAINTING AND SCULPTURE.

THE interest with which we regard any representation of the human figure depends greatly on the extent to which it embodies the passions and emotions of the soul, and vigour and acuteness of intellect. The most beautiful forms, if inexpressive of mind, fail to command general sympathy. The expression of mind appears to me to depend on the adaptation of the forms, proportions, texture, and attitudes of the whole figure, to the capacities and emotions intended to be represented. To accomplish this object successfully, the artist will find it advantageous to study, not the anatomy of the bones and muscles only, to which chiefly his attention has hitherto been directed; but also the structure and *functions* of all the vital organs,—viz. the brain, nerves, heart, lungs, bloodvessels, and abdominal viscera; and the influence of each of these on the mental character, and through it on the forms and expression of the body. Suppose, for example, the brain and nervous system to be the same in form and proportion in two individuals, but that in the one they are of a fine texture and possess great natural activity, while in the other they are inert and of a coarse or feeble constitution, the *character* not only of the countenance, but of every limb of the body, will be different. The texture and quality of the skin will be fine and sensitive in the one, and coarse and comparatively insensible in the other. The motions of the body will be precise and lively in the one; and wavering and slow in the other.

Moreover, the *condition* of these organs, as they vary in health and vigour, expresses itself in the organism. A skilful

physician in attendance on a patient labouring under a nervous affection, is able to tell the abatement or relaxation of the malady, and the extent of sleep enjoyed in the night, by feeling the condition of the limbs. After much suffering and a sleepless night, the muscles are flabby, and the skin is inanimate; and *vice versa*. Nay more, the expression of the *clothes* or *drapery* will partake of the mental condition. Look at the bonnet, gown, and cloak of a gracefully formed woman when she is in full health and vivacity; observe the air with which she carries them, the spirit which pervades them, and the pleasing effect they produce on the spectator. View the same individual again broken in spirit by calamity, or labouring under nervous depression:—her dress, although still fitting her form, hangs despondingly upon her; it has lost its animation and its grace, and seems to participate in her exhaustion and sorrow. In these instances, the dress presents unmistakeable indications of the *condition* of the brain and nervous system of the wearer. Much more, then, must their condition affect the expression of the countenance and figure. Indeed in some cases of insanity, where the morbid affection involves the whole brain, the look and appearance of the individual is so changed that his identity is scarcely recognisable. If the artist confine his attention to forms and motions only, omitting the study of the functions of the nervous system, he will be dealing with symbols the *meaning* of which he does not fully comprehend. By instinctive tact, he may understand the outward expression of such mental conditions as he strongly experiences; but unless he can justly assume himself to be a type of universal human nature, he will fall short of comprehending and judging correctly of a variety of mental states which exist strongly in other individuals, although perhaps only imperfectly experienced by himself.

The brain is a congeries of mental organs, each of which indicates its strength or weakness, activity or inactivity, by communicating particular forms, motions, and expressions to the external organism; and the same is the case

with all the vital organs. The forms and motions of the *chest*, for example, are greatly modified by the *condition* of the heart, lungs, and bloodvessels, which it contains. Large lungs and a large heart, in a sound condition, send a forcible stream of highly oxygenized blood through every organ of the body, communicating vivacity to the brain, vigour to the muscles, bloom and warmth to the skin, and to the motions bounding agility. The result of the whole is a healthy joyous character communicated to the entire organism, the faithful rendering of which tries the knowledge as well as the skill of the artist. If these organs be small, or feeble, or in bad condition, opposite effects ensue: the brain lacks fire; the muscles are thin, soft, and deficient in energy; the skin is pale and cold, and the gait feeble; demanding very different treatment in marble or on canvas.

The *condition* of the stomach, liver, intestines, and other organs of nutrition situated in the abdomen, is the source of important characteristics in the organism. Inertness of the digestive organs will render the action of the brain, thoracic viscera, and limbs feeble, even although their size be large; and the consequence will be a peculiar distressed, restrained, and undecided expression communicated to the whole figure.

The artist who relies on uneducated tact and empirical observation will experience difficulties in imparting the expression of these characteristics faithfully to every portion of a figure. I have seen an artist combine a small thorax and abdomen with forms, textures, and colours in the muscles and skin which were incompatible with them; on other occasions I have observed the condition of these organs faithfully represented in the countenance, but altogether overlooked in the texture of the muscles and the character of the limbs: occasionally the expression of strong digestion is given when the artist means to represent the characteristic effects of large lungs.

The character of the figure varies also with the combinations of the vital organs in different degrees of relative size. Thus—suppose the brain to be small, and the thorax and

abdomen large, and all in full health, the character of the organism will be widely different from that which it would be if the brain also were large and active. In the former case, we should have a fine, healthy, vigorous body, without a powerful mind; feet running to and fro without an object; hands flapping, thumping, and busy, but accomplishing nothing; a voice loud and sonorous, but uttering platitudes; and motions full of life and vivacity but destitute of meaning. In the latter case, we should have a powerful figure impregnated all through with the characteristics of a vigorous mind. The features would be precise and expressive; the muscles well defined in form and firm in texture; the skin sensitive and glowing; and the motions regulated, precise, and determined.

The brain may be large and the thorax small, or the brain may be large and both the thorax and abdomen small; and widely different characteristics will result from these combinations. I shall afterwards point out the effects of some of these combinations when adverting to the different "*temperaments*."

The effects of age on the forms and expression of the human figure are familiar to all; but these also are the outward indications of the condition of the internal organs. Scientific knowledge of the causes and effects of these changes constitutes the philosophy of the expression of age. I once saw a beautiful female figure admirably executed in marble, in which the trunk and limbs bore the characteristics of seventeen, and the head of twenty-five, years of age. The artist had modelled it from a female of the former age; but when finished he saw that there was a want of mental power about the head, and to *improve it*, he added the expression of a maturer age, leaving the body unchanged. The discord between the head and body was obvious to all who derived their knowledge of art from its principles in nature.

When we inquire on what part of the organism the expression of mental emotion and intellectual power depends, the answer is unequivocally, On the brain and nervous

system. We have seen that the condition of these affects the figure generally; but other questions present themselves for solution.

On what does *general mental* vigour depend? On what does the strength of *particular* mental characteristics, such as high or low intellectual power, strong or weak animal passion, high or low degrees of moral emotion, and so forth, depend?

General mental power depends on the *size* and on the *condition* of the brain. To express *strong general mental power*—animal, moral, and intellectual—all the regions of the head must be large. If the head is too small, although healthy in condition, idiocy, partial or complete according to the extent of the deficiency, is an invariable accompaniment. The so-called Aztec children exhibited in London in 1853 were examples of this fact. Their brains were healthy, but exceedingly small, and in consequence their mental expression was lively and harmonious, but silly; and their bodies and motions were normal, only small and feeble. These children were palmed on the public as specimens of a peculiar race of mankind; and many were deceived through ignorance of the effects of deficiency of size, combined with a healthy state, of the brain. If unsound structure as well as small size had been present, their mental expression would have been disgusting, and their forms and motions lolling and ungainly.

In proportion to the increase of size in the head, up to a certain point, the expression of mental power is augmented; but when carried beyond this point, we indicate disease; hydrocephalus, cretinism, or idiocy. Dr Gall has stated it as a fact to which there is no exception, that where the horizontal circumference of the head, immediately above the eyes, does not exceed thirteen or fourteen inches, idiocy, more or less complete, is the invariable concomitant. The largest size compatible with health is not precisely ascertained. The reverse of these observations holds equally good: as we diminish the size of the brain we lessen the expression of general mental power. The head of the Venus

de Medicis is idiotic : and this fact is concealed from ordinary observers only by the expression of the countenance being higher than would ever be found in nature in connection with a brain of the dimensions assigned to her.

Mental power, therefore, is a general expression, and corresponds to *general* size in the brain. Raphael, by means of that wonderful instinct, or accuracy of observation, which led him so generally to truth, seems to have felt this connection ; for, *as a general rule*, he bestows amply developed brains on those characters to whom he attaches interest and importance in his pictures. Occasionally, but rarely, he fails to observe this rule. Andrea del Sarto, on the other hand, occasionally paints saints and patriarchs with brains below an average in size ; and the diminished expression of mental power and dignity is at once felt, even by observers who do not know whence the difference between the effects of his and those of Raphael's pictures proceeds. This, however, is only one cause of their inferiority ; but it is a marked one.

In considering the subject of *general* mental power, it is necessary to distinguish between the results of small organs of the faculties in a state of intense excitement, and of large organs in the same condition. I have watched on the stage an actor with a small brain but very vivacious temperament. He was peculiarly *intense* in his scenes of passion and emotion ; but there was not a corresponding amount of mental weight and power to add greatness to that intensity. He resembled a puddle in a storm. He screamed, gesticulated, and roared, and tore the passion to tatters. In short, he endeavoured, by *motion*, striking attitudes, and grimaces, to express his own feelings of the character, and he expressed all that he really felt—intensity ; for his small brain could not express great power. When, on the other hand, the brain is large as well as active, the effect is different. Mrs Siddons, in some of her grand scenes, combined great power with the most perfect tranquillity. She embodied the emotions in that state in which they appear in a great nature ; one in which inherent power rises up, without agitation, to the exigencies of the grandest and most trying situations ; in which

intellect never loses its control ; and in which the natural language of deep and powerful emotion is depicted on the countenance and pervades the body, without breaking up its surface into lines and furrows. This calmness of the outward form, while intense passions are seen to be raging within, affords the truest expression of the moral sublime. The expression of feeble emotion in a state of high excitement is not adapted to sculpture and painting (and this is the quality generally meant by critics when they condemn expression) ; while, on the other hand, the expression of great mental energy, in deep, yet unruffled intensity, is indispensable to works aspiring to the highest place in art. A few illustrations will render these ideas more clear.

In the Ambrosian Library at Milan, there is a cartoon in black chalk, by Giuseppe Bossi, a modern Italian painter, lately deceased : the subject is "*L'Esiglio di Edippo*." Here the figures stand like actors on the stage, each precise in attitude, striking in features, bustling and busy. They have the frappant attitudes and forcible external expression of the French school, characteristic of small brains in intense excitement ; and the heads, in perfect harmony with the expression, are all under-sized in proportion to the bodies. There is an air of smart elegance about the figures, and the drawing is good. We see at once that the performers are animated by strong emotions, which are vividly expressed in their features and attitudes ; but the expression is that of intensity without depth, in which muscular action takes the place of solid mental power. If they were to move, their motions would be all rapid and sharp ; and if they were to speak, they would utter torrents of impassioned words in small voices : great mental power, in its expression, is calm, deliberate, and deep. There is no want of Concentrativeness in them. They are engaged in the scene ; but their mental endowment is too slender to engage the spectator as deeply as themselves. He is disposed to ask, What is all this bustling intensity about ? The same quality pervades many pictures in the Louvre, by David, representing classical subjects. The drawing is precise and forcible ; the colouring brilliant, the

attitudes striking ; and his actors are earnest and intense ; but a feebleness of mental character pervades them, which greatly detracts from their interest.

In the same Library at Milan is Raphael's cartoon of "The School of Athens," very different in its character from the preceding. It represents great-minded and large-headed men, each engaged with his own weighty subject, expressing in his attitudes and countenance powerful faculties, intently occupied with their proper objects. Raphael presents the natural language of the faculties in a state of activity and power, as high as his own brain could embody.

In 1844, another striking illustration fell under my notice in Rome. Signor Tenerani, a distinguished Roman artist, and a pupil of Thorwaldsen, had executed a colossal figure of an angel awaiting the order to sound the last trumpet, which is to call the dead from their graves before the tribunal of their Judge, to receive their everlasting doom. A more sublime conception could scarcely have been formed, and it is interesting to trace the history of its execution. The artist told me that he had made several small models of the figure, none of which came up to his own conception of the subject. One of these he shewed me. In it the angel had an ample observing and practical, but not a large reflecting, development of brain ; *i. e.*, the lower ridge and perpendicular middle region of the forehead were large, but the upper horizontal portion, the seat of Causality and Wit, fell back and sloped away at the sides. This form indicates an inquiring, observing, and practical, but superficial intellect. The eyes and head were turned upward, and to the side, in the direction of the organ of Wonder, and the expression of the countenance corresponded precisely with this combination. It was full of eager expectation ; its attention was directed entirely outward—it was actually watching for a wonderful event. The whole figure was in harmony with the character of the head. One arm pressed the back of the seat on which the angel sat, to assist him in an instantaneous spring to his feet ; the hands held the trumpet short, prepared to raise it in a moment to the mouth ; and the legs were placed one partly behind the other,

for instantaneous rising. An air of fidgety anxiety pervaded the whole being. We saw a feeble mind, and a small brain, intensely excited by the expectation of a great impending event. In the colossal work, as actually executed, every thing has been changed except the original idea. The head now exhibits a large, broad, massive anterior lobe, indicating capacities for the profoundest thought. The *eyes* are turned *upward*, but *not outward*, and the expression is that of Wonder acting along with Veneration and Causality. The *head* is *not* turned to the *side*, but rests perfectly straight; and the countenance indicates profound, but sustained and tranquil thought, mingled with an indescribable awe. The arms and hands rest on the thighs, and hold the trumpet in perfect repose; while the legs are apart, as they appear in a person seated to rest, and not occupied with the thought of changing his position. A sublime tranquillity pervades every part, the solemn drapery included. The mind is deeply occupied, but not agitated, by the stupendous approaching event. Its awful results and indescribable sublimity are understood, felt, and expressed, by that head and countenance. There is not, in the whole lineaments of the figure, a trace of self-confidence, yet it embodies an inherent power and grandeur fully adapted to the situation. In the small model the mind was feeble, but the emotions were intense, and all was surface expression, anxiety, and theatrical effect. The finished work expresses the profound emotion of a great and powerful nature, in which the inherent strength rises, without agitation, to the exigencies of the most trying and awful situations, and in which the intellect never for a moment loses its control. The exterior calmness and composure of such a mind, in full consciousness of great emotions, constitute, as already remarked, the true moral sublime.

This great work has been executed from inherent judgment, without the aid of Phrenology, and bespeaks the highest genius; but near it one finds evidence sufficient of the advantages which even such a mind might derive from this science. The same artist has represented *Psyche*, the personification of the soul, with a small anterior lobe of the brain,

moderate moral organs, and a preponderating hind-head, indicating strong animal propensities. The expression of the countenance is fine, and the forms of the body and limbs are beautiful; but they are at variance with the head, the defects of which detract sadly from the merits of the statue. The celebrated Psyche of the ancients, in the Museum at Naples, exhibits a very long and large anterior lobe, with the most perfect combination of intelligence, moral purity, and feminine loveliness and delicacy, that imagination can conceive; and one wonders how, with such a model, such combinations as those now mentioned could be made by a man of taste, genius, and judgment.

Similar observations apply to painting. *Small* cerebral organs, in a state of intense excitement, produce, as I have said, great external agitation in the frame: the eyes roll or stare; the limbs move rapidly, and the muscles rise into sharp lines, giving rise to caricature expression, and producing a ludicrous or painful contrast between exaggerated forms and motions, and feebleness in the faculties which call them forth.

When *large* cerebral organs are *excited*, there is less outward movement; but an undefinable expression of strength, weight, and depth of passion and thought, pervades the body. In "The Crowning of the Virgin," by Julio Romano, in the Vatican, the Apostles stand round the sarcophagus from which Christ has risen (now filled with flowers), while Jesus crowns the Virgin in the sky. This picture represents what in nature would result from small brains in intense activity. The eyes stare, the hands are raised, the attitudes bespeak violent agitation, the lines of motion are sharp; and on scrutinising the faces, there is perceived in them a lack of mental depth and power, corresponding exactly with the weak nervous flutter of the figures. On one side of this picture is the same subject, painted by Raphael when he was very young. It is full of grace, playfulness, and fancy; but the youth of the artist is seen in imperfect drawing in some of the figures, and in a great want of mental expression in the countenances of one or two, and only a small degree of it in those of the remainder, of the Apostles. They are not ex-

cited, however, like the figures in the picture of Julio Romano; and there is no contrast to distress the spectator between the fuss of their action and their mental feebleness. On the other side of the picture is placed Raphael's "*Madonna di Foligno*," in which the Virgin, St John the Baptist, a Pope and a Saint adoring, and a Cherub, form the chief subjects. To all Raphael's grace, purity, and beauty, the picture adds as strong a representation of mental power, in calm activity, woven into the frames of the three human figures, as he could portray, while a kind of celestial vivacity and life seem to shine forth from the whole body of the Cherub. The attitudes are those of repose; but the influence of vigorous minds pervades every part. The faces seem actually to live.

Next to this picture is Raphael's "*Transfiguration*," said to be the greatest picture in the world. The first impression which it made on me, was far inferior to that which its reputation had led me to expect; but I distrusted my own judgment, and sought for instruction from artists. I was told that the "*composition*," the balancing and arranging of the group of figures (so as to combine unity, variety, and harmony) is perfect; that the drawing of each individual figure is perfect; that the expression of each in relation to his position, attitude, and character, is extremely fine; and that the lights and shadows are managed with extraordinary success. Some of these opinions are disputed; but allowing them all to be sound, still the impression on my mind remains, that this is not the greatest picture in the world. I can now explain the cause of this hesitation in recognising its supreme excellence. The spectators in the picture, and the most prominent of the Disciples, are, to a certain degree, in a state of nervous flutter; their looks, attitudes, and gestures, are those of feeble, or at least common-place minds, excited and agitated by an event which upsets their mental equilibrium. The excitement is delicately and gracefully represented; but it is a very prominent feature, and is different from that calm, powerful, deep expression of perplexity and wonder, which is exhibited by great minds. Although some extent of flutter

may have been natural in the spectators, a more vigorous expression might have been given in a great historical picture to the prominent Disciples. Those of them who are in repose, are more imbued with mental power; but even they, in my opinion, are inferior in this respect to the adoring figures in the "Madonna di Foligno." The "Transfiguration" was the last picture which Raphael painted; and he did not finish it. He died of a rapid fever; but this production conveys to me the impression that he was more nervously excited and more feeble when he executed it than when he painted the "Foligno" and that the predisposition to disease was already upon him. The great charm of his "Madonna de S. Sisto," is the embodiment in it of grace and beauty combined with considerable moral and intellectual power, in perfect repose; and it presents, in this last respect, a striking contrast to the mental conditions of the disciples in the "Transfiguration."

The predominance of *particular powers* in the mind of an individual, depends, so far as art is concerned, on the size of the particular portions of the brain which serve to manifest them. Thus, to indicate great energy in *particular* mental qualities, such as maternal affection, cunning, pride, courage, determined resolution, and so forth, *particular parts* of the head must be enlarged. Vigour in those animal feelings which give great enjoyment in sensual existence, delight in the pleasures of the table, irascibility, and pugnacity,—are indicated by the head being broad over the ears, and by the opening of the ear being low, and far forwards. To express feebleness in these qualities, the base must be narrow, and the *opening* of the ear high and far back. The organs which manifest these emotions lie on the base of the skull, part of them above, part of them immediately before, and the rest behind, the ear; and the emotions are strong in proportion to the size of the parts. Large size of these organs is indicated *both* by breadth of the head, and by lowness of the ear. When each of these characters is present (the temperament being active), the power of the propensities

reaches its acmé. In Rome, I saw a young woman sitting as a model to an artist, on account of her beautiful forms ; and I remarked that her head was large and broad over the ears, and that the left ear was uncommonly low (below the lower end of the nose), and the right, although considerably higher, still so low as to indicate great combative and destructive vigour. Her character corresponded with these proportions in the brain, for I was told that she was so violent that she was constantly quarreling, and had just been liberated from prison, to which she had been sentenced on account of an outrage committed on a priest. The development of her moral and intellectual organs was not large in proportion to that of the organs of her propensities. I could give other examples ; but I am not now *proving* the proposition—I am merely stating views for proof or refutation by more able observers. I shall, therefore, notice only one other illustration.

In the Imperial and Royal Gallery at Florence (Venetian School, second salon), there is a beautiful portrait, by Titian, of a woman in a white chemise (an upright figure, including the bust and head), with flowers in her left hand, commonly called Flora. The ear is high in the head, indicating a moderate development of the organs before mentioned, the moral organs are well developed, and the expression of the features is soft, mild, and refined. An artist had just finished an admirable copy ; nothing could be more perfectly like the original—with one exception : he had placed the ear a little too low, and thereby unconsciously introduced discord between the qualities indicated by the brain and those embodied in the countenance and in every other part of the figure.

To express *strong domestic affections*, the posterior lobe of the brain must be enlarged ; while, to represent strong sexual passion, the neck behind the ears must be thickened—a form which is given by a large development of the cerebellum, the organ of the amative propensity. In Rome, I saw a lovely group of statuary, representing Hero embracing Leander just as he had emerged from the Hellespont. Her figure and attitude were admirable, and ex-

pressed beauty and attachment in the highest degree; but her head, the back of which was turned to the spectator, showed an enormous development of Philoprogenitiveness (increased by the style of hairdressing), combined with very large Destructiveness,—qualities which had no direct connection with the action;—*deficient Adhesiveness*,—the very quality which all her *action* expressed *strongly*;—and also deficient Cautiousness, Conscientiousness, and Firmness, indicating an inconsiderate, unfaithful, and unsteady character;—the very reverse of the attributes manifested in her conduct. The spectator who does not understand the significance of the forms and sizes of particular parts of the head, may *feel* imperfections where these aberrations from nature occur, although he may not be able to discover the causes of them; while the want of harmony will be painfully perceived as well as intuitively felt, by all who understand the meaning of the forms. To them these errors will appear like drawing Venus with a squint, or Adonis with a twisted nose. In Raphael's picture of "The Espousal of the Virgin," in the Brera Gallery at Milan, the Virgin is painted with a beautiful pure female head. By very correct drawing and delicate shading, the organs of Philoprogenitiveness and Adhesiveness are represented largely developed, while Amativeness is very moderate in size. A young artist whom I saw copying the picture, apparently quite unaware that the proportions of these parts conveyed any specific meaning, had, by a few careless lines in drawing, and equal carelessness in shading, increased Amativeness so as to change the character. Raphael's forms were consistent with the ideas of virginity and purity; those substituted in the copy were so expressive of strong sexual passion, that it would be difficult to believe her character stainless. Again, the expression of the countenance in Raphael's picture was pure, and in harmony with the head. The young artist copied the countenance correctly, but its expression contradicted the form which he had given to the brain.

To represent an ambitious character—a lover of power and fame—it is necessary to enlarge the upper and posterior

regions of the head, the situation of the organs of Self-Esteem and Love of Approbation. In a meek and modest character, these should be diminished, and the organs of Benevolence and Veneration enlarged.*

To portray the qualities of acquisitiveness and reserve, which, in an exalted degree of intensity, become avarice and cunning, the middle of the lateral portions of the head should be increased in dimensions. In a character remarkable for regardlessness of property and destitute of reserve, this region should be flat, and the breadth of the head here should be diminished.

To represent strong Benevolence, Veneration, Hope, Conscientiousness, and Firmness, the top of the head, or coronal region, must be drawn high and arched; and if we desire to add to these the qualities of prudence (Cautiousness) and strong sensibility to the sublime and beautiful (Wonder and Ideality), this region must be extended in breadth as well as in height. There is a rule of art, borrowed from the Greek statues, for representing a high character, namely, to draw as much head above the axis of the eyes as there is face below that point; but this affords an approximation only, and not a perfectly correct guide to nature. The head may be high above the eyes, from a great development of the intellectual organs, without a corresponding development of Benevolence. An admirable illustration of this is presented in the head of the Jew in Titian's picture of the Tribute Money. He is asking, "Is it lawful to pay tribute to Cæsar?" The question was put with a deep but immoral design, to entrap Jesus into sedition. Titian has given to the questioner a large and high development of the intellectual organs, with a relatively shallow or flat coronal region, indicating intellectual vigour, with inferior moral emotions.

The head may be high above the eyes from a great development of Benevolence and Imitation, without a corresponding development of the intellectual organs. The line

* Compare Dr Spurzheim's *Phrenology in Connection with the Study of Physiognomy*, Pl. xxviii. figs. 1 and 2, and Pl. xxix. figs. 1, 2, 3, 4, 5, 6, with Pl. x. fig. 2, and Pl. xv. fig. 2.

to which the hair descends on the forehead does not form, and therefore affords no certain indication of, the boundary between the organs of intellect and those of the moral sentiment. I have seen the hair, in some instances, descend as low as Causality, and in other cases leave a portion of Benevolence uncovered. Besides, as age advances, the hair generally falls off first from the forehead, and changes the boundary-line between the covered and uncovered parts without changing the character of the brain or mind.

Again, a head may be high above the ear in the posterior coronal region, from a great development of Destructiveness, Secretiveness, and Cautiousness, without Conscientiousness and Firmness being large. This is apparent in the figure of Hare the murderer, in which the distance from the ear to the upper line of the head is very considerable, but the portion really belonging to the moral faculties is small. Or, the brain may be high in that region *from* a great development of the moral organs, as in the Swiss skull which will be immediately introduced.

The true rule for the artist to follow in representing high moral qualities, is to enlarge the height and breadth of that part which lies above a line drawn round the head, and passing through the centres of ossification of the frontal and of the parietal bones, corresponding to the centres of the organs of Cautiousness and Causality in the phrenological bust. The three following figures will render these observations plain. Figure 1 represents a negro skull, and the anterior asterisk is the centre of ossification of the frontal bone, corresponding to the centre of Causality; the posterior is that of the parietal bone, corresponding to the centre of Cautiousness. A line drawn round the head, passing through these two points, would leave all the moral region (with slight exceptions mentioned in the

FIG. 1. NEGRO SKULL.



elementary works on Phrenology) above it. Figure 2 represents the skull of a Sandwich Islander, in which the moral region is a little larger in proportion to the animal than in

FIG. 2. SANDWICH ISLANDER.

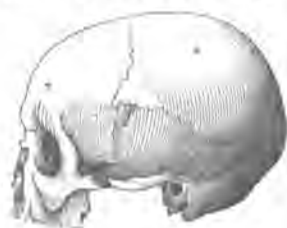


FIG. 3. SWISS SKULL.



the Negro; while Figure 3 is the skull of a Swiss, in which the moral region is still larger in proportion to the other than in Figure 2.

The student of art is requested to observe that these points are not arbitrary marks invented by phrenologists, but real centres of ossification, easily distinguishable in the skull, and recognisable by the hand in most living individuals. The fact that the moral organs lie above them is established by observation. I shall afterwards show to what extent this truth has been recognised by the great masters in sculpture and painting.

The intellectual faculties are manifested by a portion of the anterior lobe of the brain, which has three dimensions that concern the artist,—length from front to back, height, and breadth. The lower surface of this lobe covers exactly the super-orbital bones, or those thin osseous plates which cover the eye-balls. If these plates are long from front to back, the anterior lobe is long; if short, it is short. The *power* of the intellect depends greatly on the length of this line. To discover the position of the posterior edge of the plate, it is necessary, in the living subject, to feel for the most prominent point of the zygomatic arch; which is generally found where the two bones that constitute the arch meet. If we draw a perpendicular line upwards from that point (keeping the axis of the eye parallel with the horizon),

and a horizontal line from the upper edge of the socket of the eye-ball backwards till it meets the perpendicular line ; and if we then, from the point where these lines meet, draw a line to the anterior asterisk, the triangle thus formed will inclose the chief portion of the intellectual region of the brain.

On the 2d of January 1769 Sir Joshua Reynolds, in a discourse delivered at the opening of the Royal Academy, used these remarkable words :—" I must submit one thing more to the consideration of the visitors, which appears to us a matter of very great consequence, and the omission of which I think a principal defect in the method of education pursued in all the academies I have ever visited. The error I mean is, that the students never draw exactly from the living models they have before them. It is not indeed their intention ; nor are they directed to do it. Their drawings resemble the model only in the attitude. *They change the form according to their vague and uncertain ideas of beauty, and make a drawing rather of what they think the figure ought to be than of what it appears.*" In regard to drawing and modelling the head, in so far as it is covered with hair, this error flourishes to the present day, except among artists who have studied Phrenology, or been rendered aware, by the discussions which it has excited, that the forms of the head are in some degree related to character. I visited the annual exhibition of drawings by the students of an academy for art, and saw nine representations of a nude male model by as many different scholars. The form and size of the head were not the same, scarcely even similar, in any two of them. In one only were these drawn in such a manner as gave me the impression of the head being a representation of nature. I called the attention of a gentleman connected with the institution to these discrepancies, when he acknowledged them, and said : " The students have a strange propensity to draw their own heads instead of that of the model." He inquired of one of the teachers which of all the drawings was most faithful to the original ; when the one which I had indicated as bearing the lineaments of nature was at once pointed out.

Sir Thomas Lawrence paid too little attention to the forms and proportions of the head. I have a beautiful pencil sketch by him of the head of Mr Charles Kemble, in which the anterior lobe is made so deficient as to be incompatible with the high histrionic talent which he displayed, and the posterior and middle lobes are so devoid of all resemblance to nature as to be ridiculous. He painted King George IV. for the Pope, and placed the *ear* in a position usually seen only in the heads of cool, deliberate, executed murderers. Canova has modelled the heads of eminent public characters in forms that stand in direct contradiction to their dispositions; and Chantrey has committed the same fault. When I was in Rome, a distinguished English military officer requested me to visit the studio of an artist who had just completed the model of a bust of him, which was to be executed in marble. I found the countenance, all except one feature, admirably represented, and the head, except also in one part, faithfully modelled. The expression and head in this one point were at variance. The features expressed combativeness strongly marked in the character: the corresponding organ was small in the modelled head. I told the artist that this expression and that form were never found combined in nature. He despised Phrenology, and assured me that both were correct. I could only repeat my conviction of the contrary, founded on the constancy of nature; for it happened that the original was remarkable for a highly bland and courteous manner in society, and I had never seen the combative expression in his face, neither had I minutely examined his head.—I reported, to him, however, my remarks, which he had requested me to do, and told him frankly that I really did not know whether the head or the expression was in fault, but that there was a discrepancy between them. He smiled, and said—“Examine my head and tell me how you find Combativeness developed.” I put my hand on the organ, and said, “Why, it is large; the expression of the mouth is correct, but in the model the head is wrong. I never saw you, however, with the expression which the bust gives you.”—“The expression,” said he, “is correct; I *am* very combative when roused; and as

I was tired by long sitting, the feeling must have come up in my countenance, and been faithfully copied by the sculptor." He afterwards told me that the artist, on again comparing the model with the head, had acknowledged that the part in question was too small in the model.

I saw similar errors committed, every day, by artists of great talents in Rome. They obviously did not understand the *meaning* of the forms.—Mr Lawrence Macdonald has long understood Phrenology and its relations to art, and the busts proceeding from his studio bear the stamp of nature, refined and elevated, but not falsified, by genius. On one occasion I pointed out to a friend who was an eminent authority in art, and whom I accompanied in a visit to a sculptor's studio, the exact correspondence in two busts between the forms of the heads and the mental qualities of the originals, who in many points differed widely from each other and who were both well known to me. The artist observed: "It is as difficult to model a head with accuracy when one does not understand the mental qualities connected with the different parts of the brain, as to model an arm correctly in ignorance of its anatomy and motions."

These rules have generally been observed by Leonardo da Vinci and Raphael. In Leonardo's celebrated picture of "The Last Supper," the head of Christ is the highest in its forms and proportions; that of St John the next; that of St Peter is inferior; and that of Judas the lowest—judging of them according to the rules now expounded. "The Last Supper" has been sadly injured by time and injudicious repainting; but with all its imperfections, the observation in Murray's Hand-book is correct, that "the best copies, the best engravings which we have of this painting, convey only an imperfect notion of its beauty;" and, I may add, for a very good reason—they are not true. The artists who copied it seem to have had no correct conception of the *meaning* of the forms and expressions which Leonardo has given to his heads and figures; and they have transferred them to their own canvas much in the same way as a printer's compositor transfers to his own sheets the text of a book the language

of which he does not understand. The difference between an *m* and an *n*, or between an *e* and a *c*, appears to the eye of the compositor so small as to be scarcely perceptible; the words, in point of form, look so much alike, that he perhaps never dreams of the change which the substitution of the one letter for the other makes in the sense. So is it with the copying artist who does not understand the principles of expression. He omits a line here and adds a line there, deepens a shadow or increases a light, all so slightly, that he is unconscious of any deviation from the original; yet the instructed critic unhesitatingly pronounces that he has *changed the character*. Leonardo's head of Christ is not a highly imaginative representation of pure intellect and moral sentiment; it does not express the *divinity* so much as the *humanity* of the Saviour. It is a *bona fide human* head, in form, expression, and colouring. I have seen its type in nature, and recognised the expression which it bears. The temperament is nervous-sanguine; the head is large; it is of full breadth at the base and sides; the moral region is very large; and the anterior lobe is long, broad, and high. The head reclines slightly to the left side, and the eyes look down. Cautiousness, Secretiveness, Benevolence, and Veneration, are large, and the countenance expresses the action of them all. It is sad, meek, resigned, benevolent; shut up within itself, with closed lips; yet full of deep interest. The ample development of the basilar and lateral portions of the brain, gives it a *human* character; yet all its earthly elements are so thoroughly imbued with moral excellence and intellectual power, that the combination is in the highest degree elevated and impressive. *Noble* is not the term by which to designate it; it is too meek, too good, too unselfish, to be properly described as noble. It is more; it is generous, benignant, patient, sad, and intellectual, bowed down with sorrows not its own; and altogether like the purest and best of the genus Man, visited, but not broken down, by sorrow and suffering. It is the *humanity* of the figure which renders it so intensely interesting.

The head of St John is not so large; it represents the

moral and intellectual organs as predominating, and the countenance conveys the corresponding expression of sweet, soft, gentle goodness, of devotion, affection, and intelligence. In the head of St Peter, the posterior lobe of the brain is enlarged, representing Combativeness, Self-Esteem, and Firmness more developed; but still with a large anterior lobe and well-developed moral organs. His expression corresponds to this combination. It is decided, passionate, and powerful. The head of Judas has the mass of the brain behind the ears, a low forehead, and deficient coronal region; with a harsh, selfish, yet not mean expression of countenance. It is such powers of faithful observation and skilful combination that indicate the master-mind in the artist. In August 1854 I saw in Basle an individual of humble rank, whose features and expression were the counterparts of those of Judas. I looked at him with such earnest attention, that he caught my eye, and, supposing that I knew him, took off his hat and made me a bow. I returned his salute, and by this means had an opportunity of observing his head. It also corresponded strikingly with that of Judas in the picture.

This picture makes an indelible impression on every cultivated and well-constituted beholder; and why does it do so? All its elements are *true to nature*, and the combination of them is accomplished with consummate skill. We can now point out *in what* this truth consists; it has long been seen and felt, but rarely successfully analyzed.

In Rome I called on an artist, and found him engaged in drawing a noble figure, the size of life, full of intellectual power, dignity, and grace. He asked what I thought of it, and I expressed a favourable opinion of his success, but added that something was still wanting. He said, that he *felt* this to be the case; that it did not come up to his own imagination of the character, yet he could not discover in what its defects consisted. I remarked in the first place, that the line of the head backwards from Veneration *descended*, indicating *deficient* Firmness and Self-Esteem, while the countenance and attitude expressed both qualities strongly present.

He raised that line, and added to the mass of brain in the region of these organs ; and acknowledged, that this was one step towards realizing his inward feeling : it gave harmony to the expression of dignity and determination in the face and head. Secondly, he had made the perpendicular line of the chin a little prominent and curved : I pointed out that predominant Firmness compresses the chin, renders its outline straight, and draws it in towards the neck. He made this change, and found the harmony of expression increased. Thirdly, he had represented part of the hair as strong and stiff : I pointed out to him that he had drawn the nervous and sanguine temperaments powerfully expressed, and given age to his figure ; and that, in such circumstances, the hair in nature is fine and flowing. He altered this, and by the change, saw the countenance and hair rendered more perfectly harmonious. I need not enlarge on this subject ; suffice it to say, that this artist, who was a man of great talent, expressed his surprise that knowledge of this kind should exist, and yet be known to so few professional painters and sculptors.

I do not mean to insinuate that a knowledge of these rules will ever prove a substitute for genius, or enable an ordinary artist to compose a perfect statue, or paint a first-rate picture, mechanically, as the blacksmith produces patent locks or steelyards by rule. All I anticipate is, that they will serve as guides to enable genius to realize successfully its own inspirations. They will reveal to the artist a precise knowledge of the elements, and their relations to each other, by the combination of which he may produce great works ; but the power of wielding the elements themselves, and of combining and applying them, will depend on his own genius and acquirements.

I have already alluded to instances in which men of great talent and extensive experience have failed in their works from ignorance of the signification of the elementary forms which they combined ; and I could add others. One, which forces itself on my recollection, I shall here notice very briefly. In the studio of a sculptor in Rome of considerable reputa-

tion, I found the same forms of the head and features and limbs, only slightly modified, pervading nearly all his ideal figures. He had filled his mind, apparently, with strong recollections of the Greek form of head, (and head-dress in females,) eyebrows, nose, mouth, cheeks, chin, trunk, and limbs; and these he reproduced in every figure, whether it was a Psyche or a Venus, one or other of the Graces, or Juno or Flora. There they stood, like twin-sisters, every one very beautiful in form and proportion, very classical, but showing very little of the individual character and consequent variety of nature. When ranged side by side, they looked *all* artistical. It is probable that when the constituent elements of a high and refined nature shall be generally known, the want of individual character and variety in these and other figures of the same class, will be recognised as a defect. That they are graceful and beautiful in form and proportion cannot be denied, and this will render them always valuable; but the beauty of an artificial combination of forms, repeated and repeated till it produces satiety, and excites the idea of poverty of invention, is a slender foundation on which to rely for lasting fame.

As a contrast, I may mention, that I was struck with the truth of the individual character exhibited in the heads and physiognomies of a large collection of portraits of eminent men, drawn by a German artist resident in Rome. They spoke the language of nature so strongly that they vouched for their own fidelity. He told me that his father, who was a painter, attended Gall's lectures in Germany, and gave this counsel to him when entering on the same profession:—"Study Phrenology for the sake of enabling you to draw the head accurately: every line of it has a meaning." My informant, the son, followed this advice, so far as to study and represent the forms and proportions of the head with the same care as he does the features of the face; and hence the truthfulness which I have just mentioned. If these minute forms and proportions in the head convey a strong expression of truth in portraits, they cannot be unimportant in ideal sculpture and painting; for the character of Psyche differs as much from that of Venus as the mental qualities

and material forms of a beautiful intellectual and emotional woman differ from those of a lovely personification of the sexual attributes. Their significancy is felt even by persons who are strangers to Phrenology ; while to the phrenologist they are the speaking tongues of Nature.

To please cultivated minds, the ideal figure must represent Nature in her truth and beauty ; and this can never be accomplished by suppressing or changing, arbitrarily, her most significant elements of expression. As already remarked, among the artists whose works I have observed, Leonardo da Vinci and Raphael are pre-eminent for attention to true individual forms and proportions in the heads of their figures. No critic of taste can accuse *them* of representing common-place or vulgar nature ; yet they have embodied *individual* character with an extraordinary fidelity. Their genius seized the *special* forms and proportions which are connected in living men with *special* mental qualities ; and by elevating the style, without changing the type of these, the expressive truthfulness of their works has been produced. Leonardo's head of Judas, for example, is merely an elevated representation of the living head which I saw in Basle. Leonardo renders it in form and expression indicative of a cold, selfish, and determined character ; but it is not a *vulgar nor a brutal head* : there is the same quality of evil power about it which we find in Milton's Devil, who is a terrible fiend, but not a mean, grasping, or sneaking scoundrel. Thus we see that by giving large general size to the heads of their distinguished characters, Leonardo and Raphael imparted to them force and power ; and by following nature in the forms and proportions of the particular parts, they infused into them that correct individuality which has so great a charm for the majority of the lovers of art. Leonardo was engaged in too many pursuits to be able to devote his whole attention to painting, and probably in consequence of want of time to seek for new characteristic models, he has too often repeated his figures ; but in doing so, he acknowledges that he preferred recopying nature to attempting to derive individual forms and combinations from his imagination.

CHAPTER IV.

OF THE TEMPERAMENTS.

DR THOMAS of Paris considers that all the organs of the body act with a degree of energy proportionate to their size, and that the different temperaments owe their origin to the predominance in size of particular systems of organs. For example, the function of the abdominal viscera is to digest food and nourish the body. If these be large, indicated by a full belly, and if the lungs and brain be relatively small, then the abdominal functions will preponderate, and the individual will resemble the ox in his dispositions; he will eat, digest, and fatten, but be greatly averse to muscular and mental activity. This combination of organs Dr Thomas considers as the origin of the *lymphatic* temperament.

This temperament is distinguishable by a round form of the body, softness of the muscular system, repletion of the cellular tissue, fair hair, a pale clear skin, and a hazy, sleepy eye. It is accompanied by languid vital actions, and weakness and slowness in the circulation. The brain, as a part of the system, is also slow, languid, and feeble in its action, and the mental manifestations are proportionally sluggish and weak.

The office of the lungs and heart, which fill the cavity of the thorax, is to purify, invigorate, and circulate the blood. When the thorax is large, and the brain and abdomen are relatively small, the blood is well oxygenated, and vigorously propelled; and hence life and activity are copiously communicated to the whole body. The abdomen being small, there is no tendency to fat; and the brain, in point of size, being below the average proportion in relation to the lungs,

there is no strong disposition to thinking. Hence the dispositions will be towards muscular exertion, and pleasure will be felt in mere existence and motion. Among animals, the lion, tiger, and greyhound, represent this temperament. This constitution is viewed as the cause of the *sanguine* temperament.

The constitution is indicated by well-defined forms, moderate plumpness of person, tolerable firmness of flesh, light hair, inclining to chestnut, blue eyes, a fair complexion, with ruddiness of countenance. It is attended by great activity in the bloodvessels, and fondness for exercise. The brain partakes of the general vigour and vivacity of the system.

The function of the brain being to manifest the mind, when it is large, with the thorax and abdomen small, there will be great mental vivacity, with limited capacity of digestion, and little tendency to muscular action. Individuals so constituted will delight in mental emotion and intellectual pursuits. This is viewed as the origin of the *nervous* temperament.

This temperament is recognised by fine thin hair, thin skin, small thin muscles, quickness in muscular motion, paleness of countenance, and often delicate health. The whole nervous system, including the brain, is predominantly active and energetic, and the mental manifestations are proportionally vivacious; but their action cannot be long continued unless the nervous be combined with, and supported by, the fibrous temperament.

The *fibrous* (generally but improperly termed the *bilious*) temperament, is distinguished by black hair, dark skin, moderate fulness and much firmness of flesh, with harshly expressed outline of the person. It gives energy and a power of continuing long in action to the bodily organs, which extends to the brain. The countenance, in consequence, shews strong, marked, and decided features.

The different temperaments are rarely found pure. The common mixtures are the sanguine-lymphatic, the nervous-lymphatic, and the nervous-bilious.

Modifications of temperament, according to Dr Thomas's

theory, are frequent. In some persons the brain and thorax are large, and the abdomen is small. This produces the nervous and sanguine temperament, in which great mental and muscular activity are combined. This was Napoleon's temperament in youth. In other individuals the thorax and abdomen are large and the brain small; and the consequences are fine bodily health, and great capacity for muscular labour, but aversion to mental exertion. Or the brain, thorax, and abdomen may all be large in the same individual, and then he will be fond of eating and drinking, tolerably active in his muscular functions, and also inclined to vary his occupations by mental exercises.

CHAPTER V.

OF THE RELATION BETWEEN PARTICULAR REGIONS OF THE
BRAIN AND PARTICULAR CHARACTERISTICS OF BODY.

FROM numerous observations, it appears to me, although I do not state the fact as positively established, that there is a relation *between the size of particular regions of the brain, and particular characteristics of the body*. For example, I do not recollect of having observed a brain with the narrow base which is represented in the portraits and busts of the celebrated William Pitt, in conjunction with a large ponderous frame like that of Charles James Fox; nor a large broad base of brain such as is given to Fox in his busts and portraits, in alliance with a thin, slender figure like that of Pitt.

The means by which the brain acts on the body are partly known. The spinal marrow consists of two double columns; from the two anterior columns proceed the nerves of voluntary motion, while the two posterior columns give forth the nerves of sensation to all parts of the body below the head. The anterior lobe of the brain manifests intellect, the chief element of will, and the two columns for motion are placed in direct communication with it, by means of numerous nervous fibres, which have their anterior ends in the frontal lobe, and their posterior ends in these anterior columns. It is easy to conceive that a greater or less perfect development and condition of the nerves of motion may influence the character (by which I mean the form and texture) of the muscles and skin which they are destined to move; and it is equally easy to comprehend how a greater or less development of the frontal lobe, in which voluntary motion arises, and from

which the impulse is sent directly to these nerves, causing them to act in all parts of the body, may also affect the character of the same parts. The deep furrows in the countenance, produced by intense thought, afford an example of the influence of the anterior lobe on the face. These connections will be rendered more intelligible by the following figures.

EXPLANATION.

Figure 4 shews the connection of the nerves and spinal marrow with the brain. A is the brain, exposed by the removal of the back part of the skull. B the cerebellum. C C the spinal marrow. D D the nerves proceeding from the spinal marrow to the arms. E the nerves proceeding to the lower extremities. o o o o the nerves supplying the thorax and abdomen. Although this figure has no pretensions to minute anatomical accuracy, it furnishes a good general view of the connection of the different parts of the nervous system.

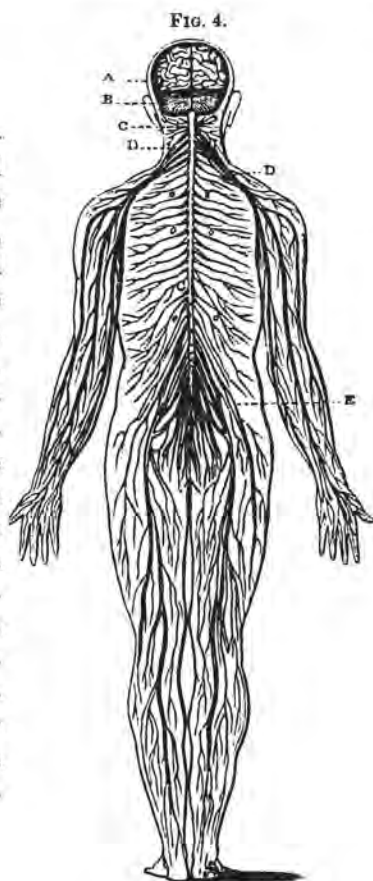
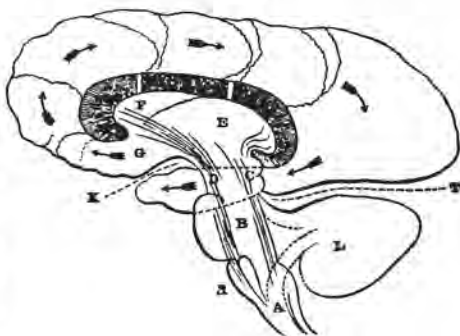


Figure 5 is copied, with some unimportant additions, from

Mr Solly's work
on the Human
Brain, p. 180.

A the medulla
oblongata, forming,
as it were,
the top of the
spinal marrow.
a, the corpus py-
ramidale. B, pons
Varolii. C, tu-
bercula quadri-

FIG. 5.



gemina, with the fibres of the *posterior* columns passing in front of them. D, crus cerebri, with some of the fibres of the *anterior* columns. E, the thalamus nervi optici of one side, or posterior striated body. F, the anterior corpus striatum. G, substance of the hemisphere springing out from the front of the anterior corpus striatum. H, space between the corpus striatum and hemispheres, caused, in this figure, by the introduction of a small piece of wood, I, the two surfaces being in contact in the natural state. K, fissura Sylvii. L, the cerebellum. T, the tentorium, separating the cerebellum from the brain.

As the power of action of *all the vital organs*, other conditions being equal, is in proportion to their size, and as each communicates an influence, corresponding to its own character, to the general organism, it follows that that corporeal frame in which *all* the vital organs are most harmoniously developed will be most favourably constituted equally for *health, vigour, and beauty*. Accordingly, it will be found, as a general rule, that when the whole head is of ample size (the moral and intellectual regions predominating); and when the chest and abdomen also are well and proportionally developed, the limbs will be most beautifully formed, the natural attitudes and motions most graceful, the mind and

body most active, and the health most complete; in short, the man will be in the most perfect state. Of all these three classes of organs, the brain, perhaps, exerts the greatest influence over the others; and the knowledge of its influence is, therefore, important to the artist.

The larger the anterior lobe, the greater is the impression of intellectual power communicated by means of the nerves of motion to the texture of the body. Under its predominating influence, (the other organs being healthy), the limbs are firm, elastic, and clearly defined in form, and exhibit a living nervous surface. Character, as I have said, expresses itself in the whole figure, including even the drapery. Who has not recognised the expression of great intellect in those figures of Napoleon the First in which he is represented with his back to the spectator, looking on the sea from a rock in St Helena? When the anterior lobe is small, this precise, firm, elastic texture, and nervous living surface, are diminished. Who fails to discover the idiot by his slouching back and ungainly motions, without needing to look in his face?

If the coronal region predominate, the forms are round and graceful, but the texture is softer and less elastic. The countenance then manifests an easy, beaming, lively goodness, which engages the affections of the beholder.

If the base predominate, the forms are coarse, and the muscles are covered with fat; or, if visible, they seem to be made of ropes and not of silken cords, as in the cases where the anterior lobe and coronal region hold the decided pre-eminence in size. These remarks will be best illustrated by examples.

There is a correspondence between the thorax and abdomen and the brain. It is rarely that a large anterior lobe and narrow base of the brain are combined with large lungs and a large abdomen; and equally seldom that a large base and small anterior lobe are combined with small lungs and a small abdomen.

There is, therefore, generally speaking, a decided character

pervading the whole corporeal frame of man, which bears a relation to the size, form, and condition of the brain, and every part of the visible surface expresses the *quantity* as well as the *quality* of the mental power which animates it. Something closely approaching to this remark is expressed in the following extract from Mrs Jameson's admirable "Common Place Book of Thoughts, Memories, and Fancies:"—"Lavater," it is said, "told Goethe that on a certain occasion, when he held the velvet bag in the church as collector of the offerings, he tried to observe only the hands; and he satisfied himself that in every individual, *the shape of the hand and of the fingers, the action and sentiment in dropping the gift into the bag, were distinctly different and individually characteristic.*" If Lavater had extended his observations to the brain, he would have found characteristic forms in it corresponding to those characteristic shapes and motions of the hands and fingers.

Mrs Jameson continues—"What then shall we say of Van Dyck, who painted the hands of his men and women, not from individual nature, but from a model hand—his own very often?—and every one who considers for a moment will see in Van Dyck's portraits, that, however well painted and elegant the hands, they, in very few instances, harmonize with the *personalité*;—that the position is often affected, and as if intended for display,—the display of what is in itself a positive fault, and from which some little knowledge of comparative physiology would have saved him.

"There are hands of various character; the hand to catch, and the hand to hold; the hand to clasp, and the hand to grasp; the hand that has worked or could work, and the hand that has never done any thing but hold itself out to be kissed, like that of Joanna of Arragon in Raphael's picture.

"Let any one look at the hands in Titian's portrait of old Paul IV.: though exquisitely modelled, they have an expression which reminds us of claws; they belong to the face of that grasping old man, and could belong to no other."—Pp. 288-289.

The hand to catch, grasp, and hold will be accompanied by large organs of Acquisitiveness and Firmness in the brain ; and the hand to clasp, by large organs of Adhesiveness.

But to resume our observations : to represent great moral and intellectual power, grace and harmony of form are not of themselves sufficient. To them must be added nervous life in the surfaces, elasticity of flesh in the masses, precision in the forms ; in short, that quality which artists and critics recognise under the name of character. I find this quality in most of the great pictures and statues ; but I have met with few artists or connoisseurs who had formed any opinion of its causes, and fewer still who saw its relationship to mental character and development of brain. A few words may be added to elucidate its connection with the latter.

Few doubt that the face of a man of great intellectual and moral power bears deep traces of thought and feeling in its habitual forms and texture ; and that soft, rounded, undefined, and lymphatic cheeks, and drowsy eyes, speak of slothful habits and feeble intellectual faculties. These effects are produced, beyond all question, by the action of the brain on the nerves which expand themselves on the face and on the eye. To the touch, the skin and flesh in these cases *feels* different ; in the one instance, it is firm, elastic, and responsive ; in the other soft, inelastic, and prone to retain the impression which it has received from the fingers. The same class of nerves pervades the whole external parts of the body, and performs similar functions in them as in the face ; and hence the whole body is an organ of expression of the mind. Farther, when an individual is exhausted by mental efforts and bodily fatigue, and sleeps, how strangely is the expression of his countenance changed ! The forms are now heavy and ill-defined ; the elasticity of the flesh has departed, and the mind no longer radiates from the features. Feel the condition of the thighs, the legs, and the abdomen, and in them similar changes will be recognised, even by touch. Now, what exhaustion of nervous energy and sleep accomplish in this case, is pro-

duced in a less degree by diminishing the nervous power at its fountain-head, namely, in the brain, and especially in the anterior lobe, which commands most forcibly the anterior vertebral column of voluntary motion. The effects of sleep, in other words, the cessation of the mental functions of the brain, afford a striking illustration. The expression of the skin, face, trunk, and limbs of "the sleeping Fawn" are widely different from those of a man in a state of mental activity, although his attitude were the same. The different state of the brain causes the other changes. These remarks will be best illustrated by examples.

In the Palazzo adjoining the "Basilica di S. Giovanni in Laterano," in Rome, there is a large floor composed of ancient mosaics, removed from the Baths of Caracalla. They represent a number of gladiators about the size of life. They are so rude that they can scarcely be called works of art; but as representations of the human figure they afford illustrations of the point now under consideration, and I may therefore be permitted to refer to them. In the figures, the size of the brain, regarded in the mass, is large, or at least full; but the coronal or moral region in all of them is excessively deficient, the head is extremely broad across the ears, and in the greater part the forehead is short, narrow, and low. In only one did I observe the anterior lobe large; but in him the coronal region is extraordinarily flat, and the base is large. In all of them, too, the lungs are large, and the abdomen of fair magnitude, neither too large nor too small. Here, then, the aggregate size of the brain is ample, the lungs are well developed, and the abdomen is in just proportion: What is wanting to the completeness of the figure! Moral and intellectual organs are wanting in the brain, and the animal region is in excess. What is the effect on the character of the body? Let the mosaics answer. In all the figures the limbs are strong but clumsy; they are coarse in texture, and ungraceful in form and proportions; and the features of the face, without being distorted by passion, or disfigured by constrained attitudes, are unharmonious in their lines, and low and even odious in expression. The

figures are destitute of drapery, so that they can be scrutinized, and their different lineaments compared. As works of art, they are very humble in their pretensions; but, from the individuality of their forms, features, and expressions, they appear to be portraits of individual men. It is impossible for the phrenologist who reads their dispositions in their forms to regard them without disgust. Their brains proclaim sensual and ferocious propensities, with a lamentable deficiency in the moral and intellectual qualities; and their whole frames express the same characters.

With some exceptions, the great masters in art, in ancient and modern times, appear to have perceived the relations which I am now illustrating. In the picture of the "Tribute Money" by Titian already alluded to, the head of the Jew who asks whether it is lawful to pay tribute to Cæsar is of ample size, the anterior lobe is large, but the coronal region is flat, and the temperament is bilious. The predominance of size is largely in the region of the propensities; and in perfect accordance with this development of brain, there is great vigour and coarse intellectual power in the head and figure, and the arm and hand are particularly coarse in the forms and in the texture of the skin. The head of Jesus, on the other hand, is large in the coronal region; full in the anterior lobe, and the base is moderate, so far as it can be seen. The temperament is nervous, and the whole figure is gentle and refined, the hands presenting a striking contrast, in beauty of form and delicacy of texture, to those of the Jew. Many persons condemn the head of Christ as feeble and inexpressive, and greatly prefer that of the Jew. On the contrary, the head of Christ appears to me to shew deep analytic power and correct observation in the artist. The predominant elements in the character of Jesus are love, gentleness, and piety; and the head embodies all these qualities in its forms, while the countenance is in perfect accordance with them, with a remarkable addition. The question was an insidious one, designed to entrap him into sedition. He does not answer it directly. It was dictated by Destructiveness and Secretiveness, and he answers it by Secretiveness

and intellect. "Whose superscription is this?" baffles the enemy, without self-committal; and the expression of the eye, the mouth, and cheeks, is that which accompanies the activity of Secretiveness acting in combination with intellect and the moral sentiments. It does not amount to slyness or cunning, for these are low expressions of Secretiveness, inconsistent with the character of Jesus; but there is the expression of a veiled consciousness of cunning in the interrogator, and of consciousness of foiling him with his own weapons. It is this veiling of the internal mental processes which many mistake for feebleness; but it should be recollected that Napoleon the First, when he desired to escape the scrutiny of persons who tried to read his thoughts in his countenance, was in the habit of discharging all expression from it, and presenting only blank features,—a conscious effort of Secretiveness, but which also might have been mistaken for weakness had its real nature not been understood.

In the Royal Gallery at Florence there is a Bacchus by Rubens. Bacchus is the personification of unthinking jollity; and the painter has bestowed on him a brain rather under the average size, in proportion to his body. As the drunken god does not reflect much, he has given him a small forehead, and placed the deficiency chiefly in the reflecting region; but as Bacchus greatly enjoys the pleasures of the table, the artist has very considerably endowed him with a broad head in the region of Alimentiveness and the Love of Life, while his moral organs are very moderate in size. How has he formed the remainder of the figure? He has given to it ample lungs, and a large abdomen. Here, then, as in the former instance, all the vital organs necessary for a perfect development of the human figure are present, except the brain in sufficient size, and the deficiency there appears chiefly in the moral and intellectual organs. The differences between Bacchus and the gladiators are these: in Bacchus, the general size of the brain is less than in the gladiators, indicating less general mental power; in him the moral region, although low, is not *so deficient* as in the gla-

diators, and his thirst is not for blood, but only for wine; in him the abdomen is larger, in proportion to the brain and thorax, than in them, indicating in him greater nutritive than mental and muscular power. In exact accordance with all these qualities, Rubens has bestowed on Bacchus fat flabby limbs and a portly figure, and deprived him of all pretensions to deep thought, elegance, and grace. Nevertheless, he has refined the forms and the expression of the countenance as much as was compatible with the character, and, on the whole, produced as pleasing a representation of sensual enjoyment as genius could accomplish.

The next example is furnished by the Theban Hercules, an ancient semi-colossal statue in the "Museo Chiaramonti," in the Vatican at Rome, No. 294. Hercules is the representative of great physical strength, employed in arduous labours, and generally for benign purposes. Hercules is no great toper; nor much addicted to *gourmanderie*; he is not cruel or ferocious; yet he is not intellectual, and he is passively rather than actively moral, except in the aim of his feats of strength. How, then, has the ancient artist formed him? He has conferred on him a large chest, with an ample but firm abdomen, and a head rather below average in general size, in proportion to the body. These are the proportions which produce physical strength *plus*, and mental power *minus*. How has he shaped the head? He has bestowed a brain of average breadth over the ears, and pretty large behind, indicating animal propensity sufficient for health, strength, and physical enjoyment, but not so great as to produce predominating sensuality or ferocity. The anterior lobe is well developed in the lower ridge and in the middle perpendicular region,—a combination of intellectual organs adapted to observation and practical action; but it is palpably deficient in Ideality, Wonder, and Wit,—sentiments of elevation, refinement, and gaiety. The coronal or moral region is of an average size in proportion to the other parts. The countenance exhibits a healthy, easy, good-natured, yet grave expression, harmonizing admirably with the physiological effects which would follow from his peculiar combina-

tion of brain, thorax, and abdomen. How do the limbs correspond with this character? They are large, strong, and well proportioned; but they are neither fine in texture, nor highly graceful in form. The statue was found in 1802 "nella Campagna dell'Oriole," and an arm and the right leg were restored by Alessandro d'Este, after a model by Canova. It is an admirable personification of the man of bone and muscle, of activity and strength, but who is neither a sensualist nor a savage.

In the "Stanza di Giove, No. 111," of the Royal Gallery in Florence, is Salvator Rosa's celebrated picture of the "Conspiracy of Catiline." History informs us that Catiline and his associates were men weak in intellect, strong in animal passion, and sadly deficient in the moral qualities. How has the painter represented their heads? *There is not a well developed anterior lobe or coronal region in the whole group!* Their heads, too, are *not large*, the animal organs alone being ample; a configuration corresponding exactly with the characters historically ascribed to the men. As they wear drapery, there is no opportunity of carrying the criticism farther. In composition, this picture is regarded as one of great merit.

An example of a higher style of character than any of these may now be mentioned.

In the "Museo Chiaramonti," near Hercules, sits Lysias, the Greek orator, "who," in the words of the catalogue, "in profound acumen of thought, was judged to be unrivalled." He is of the size of life, and some other representations of him give authenticity to this statue, which is unquestionably ancient. His head is of full size, and graceful; his anterior lobe is long, broad, and high, and particularly large in the middle perpendicular region, which gives readiness of perception and promptitude of thought, and fits the mind for action. The ear is high and far back, indicating moderate animal propensities. The coronal region, which is a little bald, is well developed. The base and posterior lobe are fairly, but not too largely, developed. This combination expresses great intellectual power, amiable dispositions,

sound judgment, and as much energy of the animal propensities as is necessary to give effect to these attributes. How is the body formed? The lungs are moderately well developed, and the abdomen also is moderate; both are less than the average in proportion to the anterior lobe of the brain. He is a short man; his limbs are rather small, and in youth they would be fine in texture and form. The countenance expresses deep thought, with that slight degree of *mal-aisance* which generally characterizes men in whom the anterior lobe of the brain is large in proportion to the lungs. The harmony and grace of the whole statue will strike every cultivated mind.

The Greek head, as represented in the Greek statues in the Vatican, differs widely from the ancient Roman head, as portrayed in the busts and statues of the emperors and of distinguished men. The Greek brain was not so large as the Roman, indicating less general mental power; but the moral and intellectual regions were considerably larger, in proportion to the animal region—bespeaking a greater susceptibility of refinement and civilization, and also (if the foregoing principles are correct) a more beautiful and graceful development of bodily forms and proportions. These Greek works appear, in many instances, to represent individual nature;—of the highest order certainly, but still individual, and closely true to individual character. It is worthy of remark, also, that there is a palpable similarity, both in size and form, between the heads of the distinguished men in the Greek statues, and the highest specimens of the ancient Greek skulls in the collection of the Phrenological Society of Edinburgh. History makes us aware that the Greeks surpassed the Romans in elegance and refinement, and that the bloody combats of gladiators were unknown among them as native sports. In accordance with the character of their heads, their great men stand before us in the Vatican, noble and graceful in attitude, chaste and expressive in the forms of their features, limbs, and trunks; slender, yet not feeble; and with drapery adjusted in exquisite harmony with all these attributes of mind and body.

On the other hand, the Roman heroes, sages, and emperors (I speak of their general type), have large heads, extremely broad in the base; large intellectual, but generally moderate, and in some instances deficient, moral regions, with a powerful but low expression of countenance; limbs superior in magnitude, but inferior in grace and beauty, to those of the Greeks; and a general character that indicates strength of purpose and depth of intellect, but without the inspiration of high sentiments or noble aims.*

It is difficult to account for the harmony of all the parts which pervades these works, except by supposing that the ancient artists, when they did not form portraits of individuals, selected models of the highest excellence, and faithfully adhered to their forms and proportions in all the details; correcting only individual defects, and this with a complete knowledge of the character of the subject in hand.

It would be easy to multiply examples of statues and pictures, in which the artist has bestowed forms of head at variance at once with the expression of the countenance, with the dispositions, and with the character of the trunk and limbs of his figures; but as this is an invidious task, I shall mention only a few. In one of the galleries in Florence there is a picture of Lot holding a shell, into which one of his daughters is pouring wine, in order to make him drunk, for the purpose mentioned in Scripture; while the other daughter sits approving on the other side of her father. This whole transaction indicates dispositions of the lowest order; yet the painter (who is a distinguished artist, but whose name I unfortunately omitted to write down, and have, in consequence, forgotten) has bestowed on Lot a beautiful moral and intellectual brain, moderate animal organs, and a corresponding expression of countenance. It is my firm belief that such an act as that to which the painter has here represented the prelude, *could not have been*

* There is a perplexing diversity in the forms and expression of many of the ancient busts described in the Roman catalogues, as representing the same person; which leads to the suspicion, that some of them either are very inferior copies, or are misnamed.

committed by a human being endowed with such a brain; for this simple physiological reason:—before *that* intellectual and moral organism could have become so impaired in its functions by wine as to consent to such a deed (or rather to enact it automatically, for it never could consent), all power of muscular movement would have been suspended. Farther, the painter has enriched the heads of the two daughters with excellent moral and good intellectual organs, and represented them, in form and expression, as interesting, innocent, and graceful young women—I might almost say young ladies; for they are so modest in look, and so becoming in attitude and attire, that one would commend their governess for her good sense and correct taste in forming their habits. If the artist had been acquainted with the functions of the different parts of the brain, and the physiological, as well as moral and intellectual influences of these on the figure and expression, he could not have fallen into such a series of errors. He has produced a really interesting picture, and it is necessary only to change the name of it, and to call it a Daughter refreshing her Father with wine after the fatigues of the day, to bring the subjects and the story into harmony with each other and with nature.

I have already alluded to a celebrated female model much spoken of by the artists during my visit to Rome in 1844, and I now remark farther, that her head was large and broad over the ears; that the anterior moral and the upper intellectual organs were by no means large in proportion; but that Self-Esteem, Love of Approbation, and Firmness, were very large. Her temperament was nervous-bilious, and her bust was fine. The lines of her face were strongly marked and regular, and were of that character which is found in the Roman Minerva, and termed by many classical. The combination of cerebral organs here described gives great force of character, but accompanied by coarseness of feeling and irascibility of temper. It communicates the qualities of self-will and determination, and gives that proud bearing which, when accompanied, as in her, by strength of character, imparts a kind of Spartan dignity to the figure. The expression of

her countenance, and of course the minute lines and forms of the features which produce that expression, were in perfect harmony with these mental qualities. I have seen three busts of her, modelled by different artists in Rome. One of them has taken only the general character of her countenance, and changed both the head and features so extensively, that he has made rather an ideal figure than a likeness of the model; and, as this is perfectly allowable, I offer no criticism on his work. Another artist, however, has enlarged the reflecting organs and elevated the expression of the countenance, rendering it greatly more soft and gentle, but allowed the enormous Destructiveness (indicated by the low ear and great breadth of head), and the towering Self-Esteem and Firmness to remain in his bust exactly as they are in nature; while the third artist has added a little to the intellectual organs, and a considerable portion to the moral, has raised the ear, and very palpably lowered Self-Esteem and Firmness, but has nevertheless retained the forms and expression of the features with exact fidelity. Both have set "roaring war" between the mental character indicated by the brain, and the mental character indicated by the features. The one has given us a moral countenance and a low character of head; the other, a low countenance and a high character of head! And they are not student-artists, but men of great experience and high standing, who have played these "fantastic tricks." How can such aberrations from nature, reason, and good taste, be accounted for? The only theory that I can venture to offer in reply, is the following.

It is a maxim in art, "that a mere copier of nature can never produce anything great," and "that all the arts receive their perfection from an ideal beauty, superior to what is to be found in individual nature." "The whole beauty and grandeur of the art," says Sir Joshua Reynolds, "consists, in my opinion, in being able to get above all singular forms, local customs, particularities and details of every kind. All the objects which are exhibited to our view by nature, upon close examination, will be found to have their blemishes and defects. The most beautiful forms have something about

them like weakness, minuteness, or imperfection." The painter, therefore, who aims at the grand style, should form an "idea of the perfect state of nature," and "learn to design naturally, by *drawing his figures unlike to any one object.*"

These canons of art contain truth, but they have sometimes been misapplied, and need to be received with some qualifications. Perhaps all actual human figures have their blemishes and defects, but these are accidental merely; their origins may be traced, and their causes discovered. There is a great multiplicity of parts in the human organism, and perfect beauty is evolved only when each in its individual condition, in its individual size and form, and in its relative proportions, is perfect; and, considering that malformation at birth, and, subsequently disease, occupation, climate, and other influences, may injure some parts, and leave others unscathed, it may really be rare to find the whole organism perfect in any one individual. An artist, therefore, aiming at the representation of perfect beauty, should not servilely copy any natural figure in those parts in which he perceives defects. But this does not imply that he should change what he *does not know* to be imperfect, merely to avoid copying nature too servilely; or that by his own invention he is capable of supplying more beautiful forms, or putting together more perfect combinations, than ever nature has exhibited. Sir Joshua Reynolds well expresses the qualification of the artist's privilege of changing, when he says, "His eye being enabled to distinguish the *accidental* deficiencies, excrescences, and deformities of things, *from their general figure*, he makes out an abstract idea of their forms more perfect than *any one* original;" but I humbly conceive that "the abstract idea" must comply with the conditions of nature, otherwise it will not represent nature successfully. Some of these conditions may be mentioned: In a work of art every muscle must be in the place, must wear the form, and must bear the relative proportion to the other muscles, which it does in the most perfect specimen of muscular beauty furnished by nature; and the same rule must be observed in regard to the different parts of the

brain. As there is one style of muscular development suited to a Bacchus, another to a Hercules, and a third to an Apollo ; so there is one form of head adapted to the bandit, another to the clown, and a third to the philosopher.

Farther, in combining the elements of beauty, nature must be implicitly followed ; for example—as an artist, who should represent Hercules with a small chest, would far exceed the limits of deviation from nature allowed to genius, and prove himself a fool ; so one, who, to a form of brain as certainly expressive of low dispositions as large lungs are of muscular strength, adds a high moral and intellectual countenance, does not improve upon nature, but merely shews that he is still unacquainted with the real import of the different cerebral configurations. There is a rule for the guidance of the artist which at once is simple and admits of no exception ; he should never join things which nature *never* combines—for example, a form of brain like that of William Hare, the murderer, with a face, attitude, and development of body bespeaking noble mental qualities ; and never *disjoin* things which nature, in the healthy condition, never separates. To be capable of observing this rule in the composition of a human figure, the artist must possess a very extensive and intimate acquaintance with the structure, functions, and relative influence of nearly all the human organs. To knowledge of anatomy should be added an acquaintance with physiology, and with mental philosophy in its widest sense—namely, with the fundamental faculties of the mind, their organs, and their combinations ; and their modes of affecting forms, attitudes, and expressions. “My notion of nature,” says Sir Joshua, “comprehends not only the forms which nature produces, but also the nature and internal fabric and organization, as I may call it, of the human mind and imagination.” It can be only after the form, functions, and relations of each separate element of beauty are known, that the artist can hope to *combine* them successfully ; and he may rest assured, that in proportion to the diffusion of this correct and minute knowledge of mind and body among his critics (and an advancing system of

education is daily increasing it), will his adherence to sound principles be appreciated, and his departures from them detected and condemned. It is clear that the able artists who changed the head and features of the model before mentioned did not proceed on true principles; for their changes differed equally from each other and from nature. If they thought that they were correcting defects, they made their corrections without knowledge of the thing they were striving to improve, and consequently fell into errors.

It may perhaps be objected to these views, that many great men do not bear the stamp of greatness in their persons; that St Paul describes himself as *mean* in his bodily aspect; that "Alexander is said to have been of a low stature;" and that "Agesilaus was low, lame, and of a mean appearance." The explanation of these phenomena is not difficult. *Mental* greatness depends on a certain size and form of brain: and such greatness is never disjoined in nature from that form and size. But the brain is only one portion of the human figure. If in St Paul the lungs were small, the vivacity with which his intellectual organs acted might have diminished the vigour of his digestive organs; and the sources of nutrition being thus impaired, his whole person, except his brain, might really have been weak, and its forms unpleasing. Sir Walter Scott was lame, and had by no means a noble presence; yet his brain, and his mental expression when his brain was active, bore the impress of his genius. The artist may in some instances find in nature a large and well-formed brain in combination with a defective mental character; because a brain, like a leg, may be unexceptionable in form, and be diseased in its condition: but he will *never* meet with *great power* united to *deficiency of size* in the organs on which that power depends, be it mental or muscular. I say, in the organs on which the power depends; for it will not screen the artist for many years longer, to take refuge in the vulgar, common-place objections, that many idiots have large heads, and many men of great talent small heads, and so forth. The point to which he must bend his attention is this: Is there any instance in

which a very proud man has a *small* organ of Self-Esteem ; any in which a deep reasoner on causation has a small organ of Causality ; any in which a cold-blooded, malicious ruffian has a small organ of Destructiveness ? and so forth. If the power *never* appears strongly in the character when the organ is palpably deficient (the healthy state being always supposed), then, to be successful in forming the heads of his ideal personages, he must condescend to give them those organs, and in that degree of size, which nature constantly combines with the dispositions which he is portraying ; and it is only minute knowledge of the individual organs, or the closest observance of nature, that can enable him to make these combinations.

Instances have been already cited in which even great artists have fallen into discrepancies in the characters they have given to different parts of the same figure ; and to these may be added the celebrated statue of Christ by Thorwaldsen. The marble statue adorns a church in Sweden, but the plaster model was still in the sculptor's studio in Rome in 1844. The moral and intellectual regions of the head were large, high, and in beautiful proportions,—the lower intellectual ridge gently predominating. The countenance embodied the purest and grandest emotions, rendering soft and placid great intellectual acuteness and profundity. A pensive air of melancholy is suffused over the figure ; bespeaking the Man of sorrows and acquainted with grief. The arms are extended, and the drapery is arranged with consummate simplicity and grace ; yet the arms and hands belong to an inferior nature—they are thick, short, and deficient in fineness and precision of form, and out of harmony with the head and countenance.

CHAPTER VI.

ON THE NATURAL LANGUAGE OF THE PARTICULAR
FACULTIES AS AN ELEMENT OF EXPRESSION.

WE have now considered the effects of general size and general deficiency in the brain on general mental expression ; and, also, the connection between particular forms of brain and particular mental qualities. I proceed to observe that when a particular faculty is *predominantly* powerful and active, it expresses itself by imparting peculiar motions, attitudes, and looks, to the trunk, limbs, head, countenance, and eyes. This is the natural language of the faculties, and is universally understood. The actor exhibits it on the stage ; the caricaturist, by exaggerating it, produces his most powerful effects ; and the sculptor and painter deal with it, more or less, in their ideal figures. It is matter of controversy, however, among critics, how far the latter artists can, with advantage, avail themselves of it in works of the highest order. The Dutch painters and others who represent humble life, employ it largely ; but the highest authorities regard it as an element which must be very sparingly introduced into historical painting and classical sculpture.

Physiognomy is a universal and captivating study. When we see for the first time persons who interest us, we form opinions of their mental qualities from their bearing and expression of countenance, the tones of their voice, and their other external characteristics. As Nature herself prompts us to draw these conclusions, they must have a foundation in nature. But, nevertheless, no sphere of speculation is more beset with difficulties than this ; and in none are the judgments formed by different observers of the same subject more strikingly various, or more frequently contradictory.

Sound principles of judgment are always wanting when able and instructed men differ palpably in their estimates of the qualities of the same individual ; and accordingly, before the discoveries of Dr Gall, Physiognomy rested chiefly on the instinctive sagacity of each individual mind, and was destitute of all basis in science or philosophy. The cause why it remained in this condition was the following :—Physiognomy is the study of natural mental qualities from their external signs ; but, before the discovery of the functions of the brain, and of its different parts, these qualities themselves were not scientifically ascertained, and their signs, therefore, could not be precisely read. The qualities were known to each student only in the mass, or separated into such elements as he, by his own sagacity and the speculations of other men, could reach. When Gall discovered that the strength of particular mental desires, emotions, and intellectual powers, is in proportion, other conditions being equal, to the size of particular parts of the brain, he enabled us to unravel the aggregate of the mental qualities, and to resolve them into their elements, not by mere speculative sagacity, but by physical evidence of their differences. Physiognomists had acknowledged the connection between mental qualities and external signs ; and as soon as Gall was able to determine the *natural* predominance of a fundamental quality in a man's mind by its connection with a predominating development of a particular part of his brain, he became certain of the simple nature of the power, and was in a condition successfully to observe in what manner it expressed itself in the instinctive attitudes of the body, in the gait, in the play of the features of the face, and in the tones of the voice, of the individual. Gall recorded these observations, and drew from them conclusions concerning the laws according to which the different faculties express themselves by instinctive looks, sounds, and movements of the trunk and limbs. Then, and then only, Physiognomy assumed the rank of a branch of science ; and such is its character in Gall's work on the Functions of the Brain.

The natural language of any of the emotional faculties

may appear in an individual in a state of great intensity, and it then becomes the expression of a passion; or calmly, and it then indicates habitual dispositions and intellectual states. Sir Charles Bell, in his *Anatomy of Expression*, has treated of the nerves and muscles of expression; but in consequence of his being unacquainted with the primitive faculties, he has advanced but a little way in elucidating the action of these nerves, and the forms which these muscles assume in expressing *particular* mental states. He points out the muscles which are moved in laughing, and those which are moved in crying; but he did not carry his researches so far as to announce that each faculty has a laugh peculiar to, or characteristic of, itself. The laugh of Destructiveness is bitter, and that of Self-Esteem is scornful; that of Benevolence is soft and pleasing; that of Love of Approbation is insinuating; while that of Secretiveness is sly. The laugh of Destructiveness and Self-Esteem acting in combination is bitter and scornful; and so forth, in regard to the combinations of the other faculties. Each of these laughs produces a peculiar action of the muscles and expression of the eyes. And the same observations apply to crying. The crying of a child, animated by an injury which has roused its Destructiveness, is quite different from that of one excited to crying by mortified Love of Approbation. Sir Charles Bell has given two drawings illustrative of laughing; one is the laugh of the gratified animal propensities acting along with Benevolence, and the other that of Ideality, Wit, and Intellect. The artist who hopes to deal as a master with expression, needs to know the forms which nature assumes in all those instances; and they are discoverable when the key to them is possessed—namely, a knowledge of the primitive faculties, and of the peculiar motions and lines by which each of them expresses its activity in each of its modes of action and grades of intensity. The expression of each, in repose, in joy, in sorrow, in a state of offence, in a state of gratification, and in a state of passion, is a modification of its intrinsic and unchangeable form: When this last is known, the others may be learned;

but when it is not known, the attainment of a correct discrimination of them is extremely difficult. It is on this account that I have so often repeated that a great artist needs to be, not a superficial, but a profound and deeply-skilled phrenologist, in order to understand scientifically the elements on the combination of which he seeks to found his fortune and his fame.

A few illustrations of natural language may be stated. When the organ of Self-Esteem, for instance, predominates in size over all the other organs, it gives a cold, selfish, imperious air to the individual. He carries his head high; his look is full of disdain; and his walk and speech are solemn and pretentious. The activity of the emotion is revealed to the spectator through the medium of muscular movements and attitudes, which movements and attitudes (including the effects of the voice and eye) constitute the natural language of the sentiment. To be able to treat the expression of the feeling successfully, the artist should know accurately and precisely the laws according to which these movements take place.*

Again, as *every mental faculty* has its own peculiar natural language, and as, in most individuals, and on all ordinary occasions, several faculties, in nearly equal states of intensity, act together at the same moment, the attitudes, gait, countenance, and voice, will express the mental state produced by this combination; and, of consequence, the muscular movements which give expression will be such as are determined by the combined influence of all the moving powers. At this point the ordinary student of Physiognomy loses his way; he is in a labyrinth out of which he cannot find a clue to escape; the objects before him are too numerous, their combinations too intricate, and their movements too rapid, to enable him to unravel and understand them. Nevertheless, it is the duty of the artist to

* These are explained to some extent in Dr Gall's work on the Physiology of the Brain; in Dr Spurzheim's treatise on "Phrenology in connection with Physiognomy;" and in "La Phrénologie, le Geste, et la Physiognomie," par H. Bruyères, Peintre, published in Paris in 1847.

represent these combined effects ; and Phrenology will lend him an important aid in doing so with fidelity and success.

Let us pursue the sentiment of Self-Esteem into its combinations. When Self-Esteem appears *predominant*, every one recognises its character and presence. On account of the distinct manifestations which attend *predominance*, therefore, the natural language of *every faculty* can be best ascertained by studying it, in the first instance, in persons in whom it holds the ascendancy over all the other faculties. After we have discovered its pure and characteristic expression, we shall be in a condition to trace its influence when acting along with other faculties ; but not sooner. Suppose, then, that large Self-Esteem is combined with large Acquisitiveness, and deficient Benevolence and Cautiousness ; the influence of Acquisitiveness will modify the effects of Self-Esteem into the production of a cold, selfish, grasping, penurious, miserly disposition. Acquisitiveness predominant communicates a peculiar set of muscular movements to the body and face, expressive of unsatisfied greed ; a craving sharpness and cold selfishness pervade the features. When the two faculties act habitually together, the attitude, gestures, look, and voice, will express the attitudes of Self-Esteem, no longer purely and openly proud and overbearing ; but modified by and combined with those of this propensity, viz.,—quiet, selfish, and impenetrably greedy. Again, strong Self-Esteem may be combined with powerful Veneration, Conscientiousness, Benevolence, and Intellect, and it will be modified in its direction by all of these. It will then become an element communicating noble independence—self-reliance in the pursuit of truth, justice, religion, and humanity. It will impart dignity to the expression of the countenance, and grace to the attitudes and movements of the limbs. This combination may be seen in West's picture of the "Return of Regulus to the Carthaginians." The father, husband, and citizen are there represented in all the dignity and grandeur of a great nature calmly and nobly sacrificing self to duty, and redeeming honour at the expense of torture and death. Or, the same faculty may enter into activity along with

Firmness, Combativeness, and Destructiveness, and manifest itself in all the proud impetuosity, the daring grandeur, and the contemptuous irascibility of Coriolanus.

I cannot here enter into the details of the laws according to which each cerebral organ, when predominantly active, affects the voluntary muscles, so as to express itself in peculiar attitudes, looks, and gestures; nor is it necessary that I should do so, as these are ably expounded in the books before named. I beg leave, however, to remark, that the student who takes up these works, and merely reads the pages, and conceives that he should thereby instantly become an adept in this branch of the science, will be disappointed. The doctrine of the natural language of the faculties can be mastered only by a vigorous and analytic mind. It occupies one of the highest and most recondite departments of Phrenology; and to master it, the student must be *practically* acquainted with the elementary portions. He must have studied nature under the lights afforded by this science, carefully and long, before he can succeed in appreciating the laws of expression; but after he has done so, he will find the attainment reward him for the application.

CHAPTER VII.

GENERAL ILLUSTRATIONS OF THE FOREGOING PRINCIPLES.

SIR JOSHUA REYNOLDS ON FORM.

HERE a question of some importance solicits our attention. Sir Joshua Reynolds has observed, that "it may be thought, at the first view, that even this form (*i. e.* faultless form), however perfectly represented, is to be valued and take its rank only for the sake of a still higher object, that of conveying sentiment and character, as they are exhibited by attitude and expression of the passions. But we are sure, from experience, that the beauty of form alone, without the assistance of any other quality, makes of itself a great work, and justly claims our esteem and admiration. As a proof of the high value we set on the mere excellence of form, we may produce the greatest part of the works of Michael Angelo, both in painting and sculpture, as well as most of the antique statues, which are justly esteemed in a very high degree, though no very marked or striking character or expression of any kind is represented. But, as a stronger instance that this excellence alone inspires sentiment, what artist ever looked at the Torso, without feeling a warmth of enthusiasm, as from the highest efforts of poetry? From whence does this proceed? What is there in this fragment that produces this effect, but the perfection of this science of abstract form?"

I reply, with great humility, that there is in it an extraordinary expression of mental life and energy. Every part of it is alive; and it is this quality which gives it such effects. Fearing that my imagination deceived me when I first came to this perception, I accompanied artists and con-

noisseurs, jointly and separately, to the Vatican, and, after pointing out the quality in question in this fragment, led them to scrutinize the expression of the surface of another mutilated statue, also of beautiful form, but without nervous life; and they recognised the difference.

"As a proof," says Sir Joshua, "of the high value we set on the mere excellence of form, we may produce the greatest part of the works of Michael Angelo, both in painting and sculpture, as well as most of the antique statues, which are justly esteemed in a very high degree, though no very marked or striking character, or expression of any kind, is represented." With the utmost deference to so high an authority, I am compelled, by my own perceptions and convictions (and at the hazard of incurring contempt for my erroneous judgment), to pronounce that there is a grave error in this criticism. Michael Angelo's statues and paintings are overflowing with nervous life and energy, expressive of *great mental power in intense action*; and it is this quality, more than all the others they possess, which has acquired for them their high reputation. Let us select, as an example, his statue of "Christ holding the Cross," in the Church "S. Maria sopra Minerva." The form and character of the head is low; the forehead is not large; the general size of the head is moderate; and the countenance expresses slightly peevishness and anger. The body and limbs, however, are to an extraordinary degree expressive of life and energy; they are, in this respect, of a far higher type than the head. Jesus grasps his cross as if he were going to strike with it, or firmly resolved to hold it against some one who threatened to rob him of it; and his muscles are in consequence in a state of vigorous tension, shewing the anatomical knowledge of the artist. But more is expressed than mere physical strength. Life, energy, mental power, and determination, are imprinted on the figure all over (except the head); and, in my humble opinion, it is this quality, and not the beauty of the forms alone, which arrests the attention and rouses the feelings of the beholder. The same remarks apply to his celebrated "Moses" in the Church of "S. Pietro in Vin-

coli." The statue is intended to represent Moses when he descended from the Mount, carrying the Tables of Stone, and found the Israelites worshipping the Golden Calf. It is portentous with indignation ; but the wrath is that of a low mind, and the forms of the head are low. The countenance bears the expression of Amativeness, Secretiveness, and Destructiveness. The anterior lobe is very long but narrow, and not high for its length. Ideality is small, and the coronal region is deficient, particularly in Firmness, while the posterior lobe is large. At a short distance, the aspect and expression of the head, with its pair of horns to the face, resemble more those of a gigantic powerful angry satyr, than those of a high-minded and inspired prophet ; but in proportion as we recede from the figure, and lose the perception of the individual features, the appearance becomes more graceful and grand ; and the statue, being colossal, was intended to be so viewed. The figure is sitting and draped, but the arms are uncovered, and they are full of nervous life and energy ; while the attitude and forms of the body convey, even through the drapery, the impression of a being animated by great mental power highly excited. The head, character, and expression, are not in harmony with each other, or with the situation ; and, in my humble opinion, it is the stamp of stupendous mental energy which chiefly gives interest to the work. In short, Michael Angelo, like Shakespeare, committed many sins against taste, nature, and reason, but communicated to his works such a vigorous character of genius, that it carries them triumphantly down the stream of criticism and time, with all their imperfections on their heads, provoking partial condemnation, yet ever carrying captive the sympathies of kindred spirits. The charm of his Prophets, painted on the ceiling of the San Sisto Chapel, lies in their embodiment of stupendous mental power, in intense, but calm activity.

As a contrast to these, I may advert to one of Canova's great works, the monument to Pope Clement XIII., in St Peter's. The head of the Pope is full of life and beauty ; beneath him, on the right, stands a colossal figure, draped,

representing Religion. Neither the face nor arms of this statue have much life. On the left reclines an Angel undraped. The *forms* and proportions of the head, arms, and thighs, are beautiful, elegant, and refined; and the expression of the countenance is pleasing. The thorax and abdomen are well formed; but the latter is rather too large for a high character of male beauty. The whole figure is remarkably deficient, however, in the quality which I name nervous life, energy, and sensibility; and it makes only a feeble impression on the spectator, unless he be an admirer of beauty of mere form and proportion. At the foot of the monument are two couching lions; and, strange to say, they are instinct with life and energy to so high a degree, that, although in a state of perfect repose, they, by this quality alone, distract the attention of the spectator from the Angel and Religion, and rivet it irresistibly on themselves. The quality of life and animal power is woven into their texture; and the effect is proclaimed by the innumerable representations in marble, bronze, lithography, and engraving, of these lions, which one sees not only in the shops of Rome, but all over Europe. The Angel, although, in mere form far more beautiful, is comparatively unknown to fame.

I may add to these illustrations, a short notice of two celebrated ancient statues, "The Dying Gladiator" and "Antinous." It is now generally admitted that the first figure represents, not a common professional gladiator, but a noble Gaul in captivity, compelled to assume this degraded character. The thorax, abdomen, and limbs, all belong to a refined and intellectual, but healthy and vigorous man; they are elegant, express in form, and replete with nervous life, energy, and sensibility. The hands alone are large and coarse, and appear unfinished. Michael Angelo restored the right arm, and has done it extremely well; only he has put a little harshness into it, which is not found in the statue in general. The head is lower in character than the body. It looks like a portrait; the breadth is average, and the anterior lobe also is average in size and combination, the knowing organs predominating. The countenance is not sensual,

nor low in expression, but strong and rather coarse. All the rest of the head is covered by thick matted hair, too coarse for the character of the body. This work has been highly and justly praised by Sir Charles Bell, for the anatomical and physiological knowledge displayed in its forms and attitude ; and Byron accurately describes its mental expression. The Gladiator is quite abstracted, and thinks of objects far away from the scene in which he is dying ; while the manly frame expresses pain and ebbing life, not in contorted limbs and swelling muscles, but in firm endurance and noble resignation. The great characteristic of it (and the same remark applies to the "Laocoon") is the animation of the whole figure with nervous life and sensibility, without the expression of motion. The muscles are all still, and the position is fixed ; yet sensibility and life pervade every portion of the body and surface. The only remark that presents itself to the disadvantage of this great work is, that in life a head of that form is not found in combination with such a body. It could not supply the high influences which fashioned and still radiate from that admirable structure.

Near this statue is one of Antinous, "The favourite of Adrian," No. 13 (p. 94) of the catalogue. This is a fine graceful figure ; the forms of the face, thorax, abdomen, and limbs, are flowing and elegant, and the proportions are good ; but, in point of interest, they are far inferior to those of the Gladiator. The limbs indicate a layer of fat beneath the skin ; they are not expressive ; and, compared with the Gladiator's, they are deficient in life and sensibility. They form a striking contrast to these, and serve to exemplify how much less the spectator is moved by beauty of mere form and proportion, than by mental vigour, when combined with fine forms, and woven into the texture of the frame.

The "Apollo" of the Vatican is generally recognised as the finest statue in existence. In point of form, proportions (except that the lower limbs are too long), and attitude, it is difficult to conceive any more perfect figure. Tried, however, by the principles which I have now ventured to expound, it is not so completely removed above criticism.

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* See also the statue of the Gladiator in the Vatican
for similar considerations.

The countenance embodies expression ; but the precise nature of the emotion or intellectual state is so imperfectly defined, that different individuals read it differently. The cheeks are deficient in nervous life, while the thighs and legs present long graceful lines, very little imbued with that living nervous power, which gives attraction to the "Torso" and "Laocoon." It is said that a god should not be constituted like a man. But the true God is not known to us embodied in form, and the heathen gods were merely deified men. This argument, therefore, cannot be accepted. Every representation of a heathen deity must embody human qualities ; and to call an expression which cannot be reduced to precise human elements, godlike, is simply to attempt to substitute mysticism or nonsense for clear conception and judgment. But this statue is a personification of the god of poetry and music, and these imply mind. His body, therefore, should indicate in its nature that quality which is the accompaniment of high mind in the human form, which he here assumes. I have been told that a theory which condemns the "Apollo," stands, itself, refuted and condemned. I reply, that the principles which I advocate allow the highest beauties of form, proportion, and godlike dignity of attitude, to the "Apollo ;" and to minds who require no more, it may well appear perfect : But to critics in whom the organs of Form and Size are *minus*, and those of reflecting intellect and moral sentiment are *plus*, and who in consequence delight most in expression of mind, and view form chiefly as an element of expression, I must appeal against this sentence of condemnation.

The artists in Rome to whom I have explained these views, and who recognise the qualities described, are divided in opinion concerning the condition of the surface in statuary and painting, which produces this appearance of nervous life, energy, and sensibility. I am pretty certain that it is not elicited by merely bringing the muscles into action ; because in the "Dancing Faun" in the Borghese villa, an esteemed work, although there is a strong expression of motion there is no great expression of mental energy. We see in nature men

with small brains and active temperaments, often full of quick motions and intensity, whom we feel to be "Slenders" nevertheless; and this character is expressed in the "Dancing Faun." Bernini's "Pluto carrying off Proserpine," has the same character in the thorax, while there is a higher power of mind in the legs. I see examples also which shew that it does not depend on a *polished* or on an *opaque* surface in marble; for I have observed it present and absent indiscriminately in all these surfaces. Physiologically, I should conjecture that the numerous nervous fibres which penetrate the muscles and the skin, when acted on by a large and vivacious brain, keep up in these a certain fine and delicate tension and flexion, which produce unevenness of surface, but so minute, that it is not recognisable by the touch, although distinguishable by the eye. On examining the "Torso" and "Laocoon," I observed minute elevations and depressions on the surface, which broke the reflection of the light, and prevented the eye from taking in long, smooth, uniform lines or masses of light; while the "Apollo," and several other statues in which nervous expression of mental life is deficient, presented those long unbroken lines or masses. An eminent sculptor in Rome told me, that too high finishing in marble weakens the expression of life. In painting also a smooth surface of long unbroken lines of light is inexpressive;—neither should the surface be like the polished skin of an apple, but more peach-like or creamy. In painting, colour is also of some assistance in representing nervous life. But in addition to the qualities of the surface, whatever these may be, certain modifications of form and motion seem to be also necessary in the limbs, thorax, and abdomen, as well as in the face, to express mental power. These, however, are inquiries more suited to practical artists than to the speculative critic.

CHAPTER VIII.

OF THE NATURAL ENDOWMENTS NECESSARY TO
CONSTITUTE AN ARTIST.

HITHERTO artists generally have considered art as a practical study, depending on an original mental endowment, which confers the talent of observing the forms, proportions, colours, and expressions, which constitute beauty in nature,—of recollecting them,—and of reproducing them in works of art. They have not considered a scientific knowledge of either mind or body, or any deep insight into human nature, as necessary to their success. It appears to me, on the other hand, that this endowment of genius is only the foundation of greatness. The artist never finds the elements which it is his object to recombine, existing pure and simple in the models from which he draws his ideas; the element which he desires to appropriate, be it form, proportion, texture, or expression, is generally mixed up, in nature, with something which he does not want. If he has no scientific knowledge to guide him, he must separate, adopt, and reject, by mere tact; and he runs the risk of omitting some parts that are important to the complete accomplishment of his design, of introducing others which are inappropriate, and of bringing into combination others which are discordant and incompatible. Knowledge of science would carry him to greater depths in his analysis, and give precision and truth to his selections and recombinations.

Dugald Stewart informs us that “what we call the power of Imagination, *is not the gift of nature*, but the result of acquired habits, aided by favourable circumstances,”* and also

* Elements, chap. 7, sec. 1.

that musical talent, and a genius for poetry, painting, and mathematics, "are gradually formed by particular habits of study or of business."** The phrenological doctrine is widely different. According to it, all genius is the gift of nature, and a genius for art depends on the following endowments:—

The *first* requisite is *temperament*, or *quality* of brain. Activity, sensibility, and fineness of perception must be combined, to lay the foundation of success, and these depend on the quality of the nervous organism. The great masters in painting and sculpture have been distinguished for a high nervous, or nervous-bilious, or nervous-sanguine, temperament: very rarely is a nervous-lymphatic temperament met with among them, and I do not recollect to have observed any one in whom the nervous was not present in a large proportion.† In the collections of paintings in Italy, we find numerous portraits of almost all the distinguished artists, most of them originals; and in Florence, in particular, a large *salon* is hung round with such portraits. If all of these were faithful likenesses, it would be easy to describe with certainty the temperaments of the individuals; but, unfortunately, I have seen several pictures, recorded in the catalogues as portraits even of eminent men, which differed so much from each other, that it is difficult to believe them to have been painted from the same person. This is vexatious and disappointing to the inquirer after exact knowledge; but as it is an evil irremediable with respect to the dead, I have endeavoured to diminish it as much as possible, by founding my observations only on the best authenticated likenesses, or on those which may be presumed to be most correct, from the fact of most of the copies coinciding in the great lineaments of the head and countenance.

The second requisite is a *full size of brain*. If this be wanting, there is a deficiency in depth of feeling, of conception, and of strength of representation, for which nothing can compensate. There are numerous instances in which the individual has possessed the temperament of genius, and even a combination of cerebral organs adapted to art, but in

* Outlines, p. 16.

† The temperaments are described on pages 51, 52.

which the *size* of the organs has been so deficient, that it was not adequate to give vigour and impressiveness. Such artists are haunted by a *demon* of genius: their fine and active temperaments give them some inspirations; they appreciate art, and are able, to a certain extent, to body forth, in their own minds, original conceptions of beautiful figures and groups; but, owing to the smallness of their brains, there is a feebleness in the execution which mars their best efforts. It is only when at least average size is added to superior temperament that effective talent is produced. When large size of brain, and the particular combination of organs which gives a talent for art, are combined with a second-rate temperament or quality of brain, the individual has a talent for art, but he lacks inspiration. He may be a skilful amateur, or an excellent *copyist* of pictures, but he will not be a great artist himself. His brain will be too inactive to *originate* works worthy of distinction; while it may be sufficiently susceptible to be impressed by, and sufficiently powerful to reproduce, those of others. In all the large galleries of art, there are individuals constantly employed in copying the great pictures; and I have seen some of their productions so admirable, that, when time has mellowed the colours, it will be difficult for ordinary connoisseurs to distinguish the copies from the originals. Only a higher temperament was wanting to render such men original geniuses.

The *third* endowment necessary to success in art, is a *favourable combination of the cerebral organs*. Certain organs, namely, Form, Size, Colouring, Constructiveness, and Imitation, combined with Secretiveness and Ideality, may be regarded as fundamental requisites, without a considerable endowment of which, even moderate success in painting or statuary will be unattainable. But much more is wanting to constitute a great master. Painting and sculpture are arts of representation, and, in order to represent well, the artist must first be capable of feeling and thinking powerfully. The more extensive and varied his powers of feeling and thinking are (the other conditions before mentioned exist-

ing), the wider will be his range of subjects, and the more variety and depth will he be able to infuse into his productions. For example; an artist deficient in the animal propensities, could not vigorously embody the excitement and ardour of battle,—nor the excruciating tortures endured by dying martyrs,—nor the fell purpose of the midnight assassin; neither could one deficient in the moral and religious organs realize the soft and elevating emotions of the saint; nor could one deficient in reflecting intellect give logical consistency to his emotions and ideas, or represent characters bearing on their forms the stamp of Nature's noblest gifts, profound and comprehensive reflection.

The more *harmonious* in point of relative size the combination of the organs is, the more perfect will be the artist's taste, the more sound his judgment, and the more generally will his works speak home to the feelings and taste of the best constituted and best cultivated minds.* If one or more of the organs of emotion or of the higher intellectual faculties be deficient, the whole range of feeling and of thought embraced by them will be feeble: if any of these be in excess, they will impress their own character and peculiarities too strongly on the artist's works. Thus, an artist with a small organ of Amativeness could not successfully communicate to a statue or painting of Venus those indescribable but generally understood feminine qualities, which render such a work interesting to this feeling in the spectator. If the cerebellum were too large, he would, unconsciously, infuse into his Venus so much of these qualities as to render it offensive to purer and better balanced minds.

The subject of genius cannot be understood except by taking into account the *quality* as well as the *size* of the brain and its particular parts; and, unfortunately, we are still deficient in knowledge of external indications of the highest quality of brain. I have seen men of undoubted genius, whose possession of this gift I could not have predicated from any external sign yet known, especially if they were observed only when they were not engaged in their

* See System of Phrenology, 5th edition, vol. ii., pp. 281, 301, and 235.

art, and not excited by conversation on it; but the size and forms of their brains gave unequivocal data for judging of the departments of art, and the kinds of subjects, in which they would excel, or fail. I have stated on page 8, that when the brain possesses a high temperament and is largely developed, an intuitive power of perceiving the qualities and relations of natural objects is the result. Dr Carpenter cites the cases of Coleridge and Mozart as two very remarkable instances of men distinguished, "the one for intellectual, the other for artistic ability; in both of whom the mental action which evolved the result, seems to have been in a great degree of an automatic character." It is obvious that this action must have been referrible to the brain; for we have no knowledge of mind in this life independently of brain, and besides, an automatic *mind* is one very difficult to be comprehended. Of Mozart he says, "The whole artistic life of Mozart, from his infancy to his death, save in so far as the earlier part of it was directed by his father, may be cited as an example of the spontaneous or automatic development of musical ideas, which expressed themselves in the language appropriate to them. When only four years old, he began to write music, which was found to be in strict accordance with the rules of composition, although he had received no instruction in them." The explanation of this phenomenon appears to me to be this:—The cerebral organs, like every other portion of nature, have been constituted to act in a definite manner, and their action has been adjusted to that of the external objects to which they are related. The "rules of composition," therefore, are merely the statement in words, of laws which the organs of Time and Tune, when in a state of high development and activity, intuitively observe in their action.

Dr Carpenter proceeds:—"And when engaged, in adult life, in the production of those works which have rendered his name immortal, it was enough for him once to fix his thoughts, in the first instance, upon the subject (the libretto of an opera, for example, or the words of a religious service), so as to give the requisite start and direction to his ideas,

which then flowed onwards without any effort of his own ; so that the whole of a symphony or an overture would develop itself in his mind, its separate instrumental parts taking (so to speak) their respective shapes, without any *intentional* elaboration. It is recorded of him, that being once asked by an inferior musician how he set to work to compose a symphony, he replied—‘ If you once think of *how* you are to do it, you will never write any thing worth hearing. *I write because I cannot help it.*’ Mozart, like Coleridge, was a man of extremely weak will : he could neither keep firm to a resolution, nor resist temptation ; and, when not under the guidance of his excellent wife, was the sport of almost every kind of impulse.”*

Translated into phrenological language, this account appears to indicate that Mozart’s brain was largely developed in the musical and emotional organs, and that it possessed such high activity that it acted spontaneously in producing exquisite music without study and without conscious effort, yet shewing weakness in the organs on which resolution and resistance depend. The defect can scarcely have been in the organs of the reflecting faculties, for Mozart’s music is highly logical ; and neither can it have been in those of the moral and religious sentiments, for his compositions often are impregnated with profound emotional expression. I infer, therefore, that the defect lay in Firmness, a small development of which is accompanied by infirmity of purpose, and inability to resist temptation. Be this, however, as it may, his case is an example of the mode of action of genius : it shews that genius creates without effort, and intuitively obeys the laws of nature related to its efforts without consciously knowing them ; and this is the case in whatever department it acts. It is said that the character of Bailie Nicol Jarvie developed itself in the mind of Sir Walter Scott spontaneously, and without effort, after he had formed the general conception of it ; and Shakspeare’s magnificent productions read as if they had flowed upon him as splendid intuitions. In painting and sculpture, the nature of genius

* Human Physiology, Fourth edition, p. 817.

is the same. It consists to a great extent in intuitive action in unconscious accordance with the laws of nature related to its efforts.

There is a difference, however, between instinct and intuition. In the lower animals instinct appears to impel to actions of which, in many cases, the individuals performing them have had no experience. It leads them also to employ means for attaining results without previous knowledge either of the ends or the means. Young birds, bees, and beavers, which build their nests, cells, or huts, for the first time, can possess no acquired knowledge either of means or ends. In them nature does all, and they never improve. Intuition means the natural and direct perception of the objects related to the mental faculties, with their qualities, relations, and capabilities. But the organs must be adequately possessed, and the objects must be presented to the faculties, to give rise to intuitive action ; hence if in an artist a particular organ, Colouring, for example, is deficient in size, no extent of intuitive power in the other organs will enable him to colour well : and, moreover, he must apply the faculty to call its intuitive power into action. Not only so, but if he possess this organ highly developed, and be deficient in the organs of Causality and Comparison, he may have the highest intuitive perception of the beauty and harmony of colours, and yet be deficient in judgment *how* and *when* to apply them so as to produce pleasing effects. Hence, not only are a fine temperament and adequate size of brain necessary to success ; but as there are numerous organs, as each becomes available only by being applied to its own objects, and as their individual action must be combined and harmonized, it follows that observation, experience, and reflection, are also indispensable to high artistic achievements. The higher the department of art, the greater necessity is there for study and experience to reach success. We know that even Shakspeare corrected and improved his great intuitions by observation and reflection.

To form a great artist, then, the first requisite is a fine constitution of brain, and an active temperament ; the second

is a sufficient development of the organs of all the propensities and sentiments, to confer upon him a sympathy with, and a keen experience of, all human passions and emotions; the third is an adequate endowment of the artistical organs;* the fourth, an ample endowment of the organs of the higher intellectual faculties; the fifth, an adequate knowledge of every branch of science which reveals the structure, qualities, and expression of the objects which he aims at representing;—to all of which must be added a thorough acquaintance with the practice of his art.

In discussing the genius and works of Raphael, I shall have occasion to shew that even his genius could not secure, on all occasions, consistent observance of the laws of nature in relation to art, by intuitive tact; and that in proportion to an artist's deficiency in any of the before named natural endowments, will he find it necessary to limit the sphere of his exertions, or to supplement, so far as this is possible, the gifts which he possesses by study, knowledge, and experience. One test of the influence of the brain on an artist's productions, is to place his works in close proximity to those of individuals possessing larger brains, and equal temperaments. The pictures or statues of the larger brain will then appear to kill or shrivel up those of the smaller. Raphael looks comparatively feeble beside Michael Angelo; and Tenerani, on my expressing admiration of his Angel of the last trumpet, modestly observed, "its merits cannot be known till it is placed beside the works of the great masters."—I hear that it has been thus placed, and stands the test successfully.

It will at once occur to the reader, that this statement is tantamount to saying that, to constitute a first-rate artist, we must have a perfect man; and that no such being exists. Both positions are granted: but the object in enumerating these requisites, is to enable us to understand clearly that the genius of an artist is not composed of one element, but

* Mozart, apparently through deficiency in the constructive and imitative organs, had no propulsion towards creation in painting or sculpture; while Leonardo da Vinci, probably from a generally large development of brain, shewed a genius at once for music, engineering, and painting.

of many ; that he is capable of feeling, perceiving, and representing different classes of objects with a degree of success corresponding to his special endowment of these elements ; and that in endeavouring to comprehend and judge of his work, it is of advantage to understand himself.

Taste is the result of the harmonious action of *all* the faculties, and is susceptible of great improvement by cultivation. A highly gifted author frequently reasons as forcibly, or soars as loftily, in his first essay, as after practice in writing for many years ; but at the outset of his career, he rarely manifests the same correct taste which he subsequently acquires by study, and by the admonitions of a discriminative criticism. Similar remarks apply to the artist. Although a large development and fine quality of brain may confer on the young student fertility of invention, aptitude in execution, and vigour in representation ; nevertheless, as the perfection of art depends on the balancing and adjusting, the depressing and elevating, the ordering and arranging, of form, proportion, colouring, expression, and composition—so as to produce general harmony of effect, to tell clearly the story of the composition, and embody vigorously and gracefully mental qualities in the figures—it is only practice, reflection, and comparison with higher standards, that will enable him successfully to reach this high position.*

In the lives of many artists we have the most painful expositions of hardships endured, and of difficulties encountered, but not always successfully overcome ; and many readers wonder what can tempt men to enter on such a thorny and unprofitable profession as art, in such cases, proves itself to be. But there is a compensating principle in all nature's apparent inflictions. The man who, from a sense of duty, or under the pressure of necessity, toils in merchandise, manufactures, law, or medicine, often spends his life in labours that are not congenial to his dispositions ; and his enjoyments are found, few and far between, in sorties from his citadel of business, into regions affording brief but highly prized gratifica-

* System of Phrenology, vol. ii., p. 281. Fifth Edition.

tions to his predominant tastes. Not so the artist. From his first act, done in obedience to his intuitive impulse, to his last effort, he is working in the line of his predominating faculties. The objects of these faculties are all things that are lovely and beautiful, rich and exquisite, in the whole scope of nature's domains; and to live, move, and have his being with them; to be inspired, elevated, and refined by them, is perhaps one of the highest enjoyments of which mortal man is susceptible. Anna Mary Howitt expresses this feeling when she exclaims, "What a beautiful thing, what a beautiful state is that of the student after all: the very aspiration, endurance, patient labour, and uncertainty of this phase of human life, engendering faith, and hope, and love, and humility, throw a peculiar halo of beauty around it. I have often felt this, but never more strongly than to-day. It seemed to me that the acquiring, the accomplishing, was, as far as the soul itself is concerned, really more than the acquisition—than that which is accomplished."*

In these enjoyments, then, the artist finds compensation for his privations, his toils, and his disappointments; and when his labours are crowned with success, his cup overflows with the richest streams of pleasure.

* *An Art Student in Munich*, vol. ii., p. 90.

CHAPTER IX.

OF THE CEREBRAL DEVELOPMENT AND GENIUS OF
RAPHAEL.

RAPHAEL was born in Urbino in 1483, and inherited from his father, Giovanni Santi, who was a painter, a predisposition for art. His father understood art, and appreciated and fostered his son's genius. Raphael lost his mother when he was eight years of age, but his father's second wife, Bernardina, "well supplied her place, and loved him and tended him as if he had been her own son." His father, after instructing him himself as far as his own talents enabled him to go, made arrangements for placing him under the care of Pietro Perugino, the most celebrated painter of the age; and although he died in August 1494, before these arrangements were carried into effect, his intentions were faithfully executed by his widow and her brother, Simone Ciarla, and "Raphael was sent to study under Perugino, in 1495, being then twelve years old."

The hall of the ancient Exchange of the town of Perugia was decorated by Pietro Perugino and his pupils. There is in it a portrait of Pietro, by himself, in complete preservation; but, owing to the cap which he wears, only the fore part of the head, below Causality, is distinguishable. It is broad and high. Form, Size, Weight, and Individuality, are very large. Eventuality is moderate, and all the other intellectual organs are large. The temperament is two-fifths sanguine—two-fifths lymphatic—one-fifth nervous. The face is fleshy and ruddy, the mouth is firmly closed, and the expression is that of reflection and prudence—the results usually of a large and well proportioned anterior lobe,

combined with large organs of Secretiveness, Firmness, and Cautiousness.

The paintings in fresco which Pietro Perugino executed in this Exchange and in the adjoining chapel (both small vaulted rooms), are in excellent preservation, and possess the elements of ease, refinement, grace, and dignity. He subsequently painted many worthless pictures, it is said, from the love of money; but it is certain that, in his works in Perugia, particularly in his Madonnas, simplicity, purity, grace, and dignity, are characteristic features. The heads of Christ, of the Apostles, and of the Virgin, painted by him, have the anterior lobe and the coronal region of the brain well developed, and their expressions and attitudes accord with their forms. They are nearly all of the sanguine temperament, resembling that of Pietro himself. Pietro's head seems to have been large; but the absence of the *bilious*, and the small amount of the *nervous* in his temperament, would render it difficult for him, after the meridian of life, to support his fame by sustained exertions and perennial fire. After that age, the constant tendency of such a combination of temperaments as he possessed is to lapse into indolence and dulness. In 1494, however, when Raphael became his pupil, he was in his forty-eighth year, and still vigorous. Raphael at first adopted his style, and in many respects could not have had a better instructor. The qualities of simplicity, grace, and dignity, which Perugino embodied in many of his figures, found responsive faculties in Raphael's mind, which gave them back in increased intensity and vigour.

Raphael died in Rome on 6th April 1520. He was buried in the Pantheon (Santa Maria della Rotonda), under the altar of the Virgin. Doubts having been raised respecting his place of sepulture, the Pope gave authority for opening the tomb described by his biographer Vasari; and on the 14th September 1833, the body was found, and proved to be his by indubitable evidence. It had been enclosed in a wooden coffin, and this placed in another wooden coffin, both thickly painted; a stone vault had been built over it;

but a small aperture had been accidentally left in one of the walls, through which, when the Pantheon was flooded by the Tiber (an event that has repeatedly occurred), the water penetrated into the vault, and supplied mud and moisture, which caused the coffins to rot, and the flesh to decay. Four views of the vault, coffins, and remaining bones, were drawn by Cammuccini, representing the whole exactly as they were found. The public authorities ordered two casts to be taken of the skull, of the bones of the hand, and of such other bones as were entire. One duplicate of these is placed in the official custody of the Chevalier Fabris, President of the Roman Academy; and, on 7th January 1844, he allowed me, in his own presence, and that of the Chevalier Barberi, by whom I was introduced to him, to examine and measure the cast of the skull. From them and other authentic sources I learned the following particulars. The skull rested on the mud; and the parts corresponding to the organs of Philo-progenitiveness, Inhabitiveness, and Adhesiveness, on the left side, and of Concentrativeness, having been immersed in it, were softened and destroyed. An irregular hole exists in the cast of the skull at this part; but the clay, which penetrated the vault in a fluid state, had dried and become hard, and bore the exact impression of the part of the skull which it had destroyed. This clay has been lifted entire, and preserved, and, when placed beside the skull, gives the exact outline of the part which has perished, only in the concave instead of the convex form. All the other portions of the skull were entire. The teeth appeared young and complete; and the skull, judging from a fragment of it found in the clay shown to me, must have been fine and thin. A cast of the skull was made in wax, and one in plaster of Paris. The latter was the subject of my examination.

Raphael painted his own portrait more than once, and in the Gallery of Florence I examined the one which is regarded as the best. It is well known by engravings. The face is oval, the features are regular, the expression is mild and intellectual, and beautifully harmonious. The form of

the forehead, the only part exposed, corresponds exactly with that of the skull. The temperament indicated by the portrait is nervous and bilious, with a slight degree of the sanguine, and also of the lymphatic, giving roundness to the features. The skeleton measured five feet seven inches, and the coffin was unusually narrow, indicating a slender frame.

The first look of the skull conveys the impression that it is smaller than the average of British male skulls. Its form is a beautiful graceful oval; and its surface appears to have been remarkably smooth and equal. My first observation was—"How like it is to a female skull of the highest class!" Chevalier Fabris observed—"That remark is striking, for Raphael is described by his contemporaries as having possessed much of the delicacy and grace of the female character;" and he called my attention, at the same time, to a cast of the bones of the hand found in the coffin;—they were long, slender, and graceful. On examining the skull more minutely, the left side was found to be a little larger than the right, the difference extending nearly throughout all its parts. A farther scrutiny shewed that the development is in an uncommon degree equable and harmonious, bespeaking corresponding equability in the development of the different parts of the brain. The only organs that present depressions are those of Self-Esteem, Hope, and the unascertained organ lying at the back part of Ideality, which I have ventured, on the faith of several instances, to suggest as probably that of the sentiment of the Sublime. There is a slight depression in the middle horizontal region of the forehead, along Eventuality and Time, the upper and under regions being most largely developed; the upper, however, predominating. At the point where the margins of Constructiveness, Tune, Wit, Acquisitiveness, and Ideality meet, there is a large development, corresponding to the locality assigned by Dr Vimont to the sentiment of the beautiful in art. The opening of the ear stands far back in the head, and it is lower than the lower margin of the bones of the nose.

On proceeding to examine the different regions of the head, I found the centres of ossification of the parietal bones

(Cautiousness) and of the frontal bone (Causality) to be so distinctly marked, that there was no difficulty in determining their positions, and estimating the size of the coronal region above them. Its high, broad, and arched development is very conspicuous. The anterior lobe, measuring from the posterior margin of the superorbital plate* forward to the superciliary ridge, is long, and it is also broad and high, but not so much above the common proportions to the other parts as is the coronal region. The region of the propensities is well developed, but decidedly subordinate to the moral and intellectual regions. The cerebellum is rather large, but it does not in any degree predominate.

The details of the development are as follows. The measurements were taken with callipers applied to an English foot-rule.

	Inches.
From Individuality to a point immediately below the occipital spine, the spine itself having been destroyed by the mud,	6 $\frac{1}{8}$
... Comparison to the point nearest Concentrativeness, the skull over that organ itself having been also destroyed,	6 $\frac{1}{8}$
... the meatus auditorius to Firmness,	5 $\frac{3}{8}$
... .. to Individuality,	4 $\frac{1}{8}$
... a point corresponding to the posterior margin of the super-orbital plate to Individuality,	3 $\frac{1}{8}$
... Do. do. to Comparison,	3 $\frac{3}{8}$
... Constructiveness to Constructiveness,	4 $\frac{3}{8}$
... Ideality to Ideality,	4 $\frac{1}{8}$
... Destructiveness to Destructiveness,	5 $\frac{3}{8}$
... Secretiveness to Secretiveness,	5 $\frac{3}{8}$
... Cautiousness to Cautiousness,	5 $\frac{3}{8}$

Amativeness,rather large.	Alimentiveness,rather large.
Philoprogenitiveness, judging from the impression in the clay, large	Constructiveness,.....full.
Concentrativeness, do. do.large.	Acquisitiveness,..... rather large.
Inhabitiveness, do. do.large.	Secretiveness,large.
Adhesiveness, judging from the right side of the cast,large.	Self-Esteem,moderate.
Combativeness,.....large.	Love of Approbation, very large.
Destructiveness,rather large.	Cautiousness,large.
	Benevolence,large.
	Veneration,rather large.
	Firmness,large.
	Conscientiousness, ...very large.
	Hope,moderate.
	Wonder,rather large.

* See System of Phrenology, vol. i., p. 140, fifth edition.

Ideality :—	Weight,large.
Back part of do. (sentiment of the Sublime ?),.....moderate.	Colouring,rather large.
Front part of do. (sentiment of the Beautiful ?),.....large.	Locality,large.
Wit,full.	Number,moderate.
Imitation,large.	Order,full.
Individuality,large.	Eventuality,full.
Form,large.	Time,full.
Size,large.	Tune,large.
	Language,uncertain.
	Comparison,.....large.
	Causality,very large.

The portrait of Raphael in the Gallery at Florence, painted by himself, referred to on page 99, indicates his temperament. His achievements shew that the *quality* of his brain must have been higher than that which is generally implied, even under these temperaments. As formerly mentioned, we are not at present acquainted with external signs of that highest of all qualities of brain which, when combined with adequate size, constitutes genius. Whether it consists in an extraordinary development of the gray matter, in a peculiar fineness of constitution, or in some other form of endowment of the brain, we are still uncertain. Be this, however, as it may, Raphael manifested the quality in a high degree. His brain was most favourably developed; the regions of the animal propensities, moral sentiments, and intellectual faculties, being all large, while the moral and intellectual portions decidedly predominated. Every desire, emotion, and perception of the human mind, were, by such a combination, placed within his ken. To every impression from without, there was a chord within prepared to vibrate and respond. On carrying our analysis farther, we discover that the special combination of organs—namely, Form, Size, Colouring, Locality, and Constructiveness—which constitute the basis of manual dexterity in art, was amply bestowed on him; while the organs which give expression—Comparison, Causality, Imitation, and Secretiveness—were added to the store. Ideality, and the organ designated by Vimont that of “the sense of the beautiful in art,” were large; so that altogether

Raphael had received from nature a rare and rich endowment of qualities, both as a man and as an artist.

His brain was moderate in aggregate size, and he was thus precluded from manifesting the highest degree of power. The organs of Self-Esteem and Hope, also, were of only moderate size; but this, probably, with his temperament and gifts was rather an advantage. The posterior portion of Ideality, conjectured to be connected with the emotion of the sublime, and the organ of Number, were also moderate. It is difficult to define the effect of the latter organ in art; and the function of the former is not fully ascertained. I shall offer, therefore, no opinion on the consequences of the moderate development of these two organs, except in remarking that Raphael's works are characterized to a greater extent by the quality of the *beautiful* than by that of the *sublime*,—a coincidence which goes, so far, to support the function ascribed to the posterior portion of the organ of Ideality. As a counterpart to these defects, we observe an extraordinary harmony of development in the organs. With the exceptions now mentioned, each stands in the most efficient proportion to the rest; sufficiently large to constitute a well-spring of power within itself, yet not so large as to give an undue prominence to its characteristic qualities.

The results of these gifts are acuteness and depth of feeling and perception, fertility in conception, soundness of judgment, and fineness and grace in execution. The organ of Colouring is only rather large; and although Raphael's attainments were considerable in this element of art, yet his colouring is not his highest excellence. The remarks of the "Critic," quoted on page 17, are not strictly correct. Raphael cannot be classed with the masters of colour; nor should the works of the non-colourists be characterized as "pale and ineffectual," so much as crude, dark, or heavy.

The organs of Love of Approbation, Benevolence, Conscientiousness, Ideality, and Causality, are all large. The extraordinary beauty and grace, the keen discernment and profound reflection which characterize his works, and are

celebrated by all his biographers, sufficiently attest the vigour of Ideality and Causality; while the extreme amiability of his disposition accords with his very large Love of Approbation, Conscientiousness, and Benevolence, combined with moderate Self-Esteem. In my opinion, the predominating Conscientiousness was one of the most important elements in his character as a man, and in his genius as a painter. It gave him the instinct of *the true* in every thing, in contradistinction to the affected, the extravagant, and the false. It contributed essentially to that combination of grace, harmony, and simplicity, which gives to his figures the impress of genuine nature; Raphael's mothers are inspired by pure maternal affection, his saints by genuine piety, his philosophers by an earnest love of truth; and every figure looks as if unconscious of every emotion except those which belong honestly and directly to the action in which he is engaged. Even his immoral characters have a look of being naturally vicious. Not a particle of affectation is to be discovered either in good or bad; there is no consciousness that spectators are looking on to be propitiated or captivated; and no passion or emotion is seen running into extravagance or excess. Truth and simplicity preside over all. There are marked differences between his styles at different periods of his career, which I shall subsequently notice; but at present I refer to his great and finished works.

In several respects there are differences between the reputed skull preserved in St Luke's Academy (referred to in the Appendix, No. II.), and the real skull of Raphael; and the first is in the region of the cerebellum. The organ of Amativeness is decidedly larger in the former than in the latter. Reports were long in circulation which seemed to indicate that Raphael was, to a considerable extent, the slave of that propensity, correspondingly with a very large cerebellum; but these representations are now acknowledged to have been unfounded, and it appears that his true character corresponded with the development shewn by the real skull. In it the cerebellum is "rather large," a degree of

size sufficient to give him a lively interest in woman, and to account for his attachment to the Fornarina, in an age when such connexions were not considered as disreputable; but not sufficient to have rendered him the slave of the sexual passion, as was falsely reported of him. The purity of form and expression with which he invests his female characters, proves that he saw in woman, less the object of a gross animal passion, than the personification of attachment, truth, gentleness, intelligence, and grace.

Another point of difference between the two skulls regards their size; the reputed skull is considerably larger than the real one. To me the real skull appears to be in harmony with the kind and degree of mental power manifested by its possessor. It is large in the anterior lobe and coronal region, and Raphael's strength lies in works emanating from these sources. He did not equal Michael Angelo and Rubens in embodying the fiery force of the propensities, and he, less frequently than they, portrayed even the moral emotions in a state of passionate excitement. To be capable of excelling in such representation, the artist must possess not only a vivid temperament, but great size of brain; because highly excited passion without corresponding *power* in the manifestation is ridiculous in nature, and altogether ineffective in art. Judging from the portraits of Michael Angelo and Rubens, the brain appears to have been larger in them than in Raphael, and there is higher vigour or mental power in their works than in his, although less taste and refinement.

Having now presented the record of Raphael's natural talents and dispositions, with such remarks as appeared necessary to elucidate its true import, I shall conclude this notice by citing some descriptions of his character as a man and an artist, from works held in general estimation for accuracy in facts, and acumen in artistical judgments. The reader will be able to decide on the extent of the agreement between the natural record and the published descriptions, without being led to the suspicion that the latter have been coloured, with the view of adapting them to the skull.

The following description of Raphael and his genius is

given by Mrs Jameson in her *Memoirs of the Early Italian Painters*, published in 1845. "Raphael Sanzio or Santi was born in the city of Urbino, on Good Friday, in the year 1483. His father, Giovanni Santi was a painter of no mean talent, who held a respectable rank in his native city, and was much esteemed by the Dukes Frederigo and Guidobaldo of Urbino, both of whom played a very important part in the history of Italy between 1474 and 1494. The name of Raphael's mother was Magia, and the house in which he was born is still standing, and regarded by the citizens of Urbino with just veneration. He was only eight years old when he lost his mother; but his father's second wife, Bernardina, well supplied her place, and loved him and tended him as if he had been her own son. His father was his first instructor, and very soon the young pupil was not only able to assist him in his works, but shewed such extraordinary talent that Giovanni deemed it right to give him the advantage of better teaching than his own. Perugino was the most celebrated master of that time, and Giovanni travelled to Perugia to make arrangements for placing Raphael under his care; but before these arrangements were completed this good father died, in August 1494. His wishes were, however, carried into execution by his widow and by his wife's brother, Simone Ciarla, and Raphael was sent to study under Perugino, in 1495, being then twelve years old.

"He remained in this school till he was nearly twenty, and was chiefly employed in assisting his master. A few pictures painted between his sixteenth and twentieth year have been authenticated by careful research, and are very interesting, from being essentially characteristic."

"We have spoken at length of two among the great men who influenced the progress of art in the beginning of the sixteenth century—Leonardo da Vinci and Michael Angelo. The third and greatest name was that of Raphael.

"In speaking of this wonderful man we shall be more diffuse and enter more into detail than usual. How can we treat in a small compass of him whose fame has filled the universe? In the history of Italian art he stands alone, like

Shakspeare in the history of our literature ; and he takes the same kind of rank, a superiority not merely of degree, but of quality. Everybody has heard of Raphael, every one has attached some associations of excellence and beauty, more or less defined, to that familiar name : but it is necessary to have studied profoundly the history of art, and to have an intimate acquaintance with the productions of contemporary and succeeding artists, to form any just idea of the wide and lasting influence exercised by this harmonious and powerful genius. His works have been an inexhaustible storehouse of ideas to painters and to poets. Everywhere in art we find his traces. Everywhere we recognise his forms and lines, borrowed or stolen, reproduced, varied, imitated—never improved. Some critic once said, ‘Shew me any sentiment or feeling in any poet, ancient or modern, and I will shew the same thing either as well or better expressed in Shakspeare ;’ in the same manner one might say, ‘Shew me in any painter, ancient or modern, any especial beauty of form, expression, or sentiment, and in some picture, drawing, or print after Raphael, I will shew you the same thing as well or better done, and *that* accomplished which others have only sought or attempted.’ To complete our idea of this rare union of greatness and versatility as an artist with all that could grace and dignify the man, we must add such personal qualities as very seldom meet in the same individual—a bright, generous, genial, gentle spirit ; the most attractive manners, the most winning modesty—

‘ His heavenly face the mirror of his mind ;
His mind a temple for all lovely things
To flock to, and inhabit ;’—

and we shall have a picture in our fancy more resembling that of an antique divinity, a young Apollo, than a real human being. There was a vulgar idea at one time prevalent that Raphael was a man of vicious and dissipated habits, and even died a victim to his excesses. This slander has been silenced for ever by indisputable evidence to the contrary ; and now we may reflect with pleasure that nothing rests on surer evidence than the admirable qualities of Raphael ; that

no earthly renown was ever so unsullied by reproach, so justified by merit, so confirmed by concurrent opinion, so established by time. The short life of Raphael was one of incessant and persevering study: he spent one-half of it in acquiring that practical knowledge and that mechanical dexterity of hand, which were necessary before he could embody in forms and colours the rich creations of his wonderful mind; and when he died, at the age of thirty-seven, he left behind him two hundred and eighty-seven pictures, and five hundred and seventy-six drawings and studies. If we reflect for one moment, we must be convinced that such a man *could* not have been idle and dissipated: for we must always take into consideration that an excelling painter must not be only a poet in mind, but a ready and perfect artificer; and that, though nature may bestow the 'genius and the faculty divine,' only time, practice, assiduous industry, can give the exact and cunning hand. 'An author,' as Richardson observes, 'must *think*, but it is no matter what character he writes; he has no care about that, if what he writes be legible. A curious mechanic's hand must be exquisite; but his thoughts may be at liberty.' The painter must think and invent with his fancy, and what his fancy invents, his hand must acquire the power to execute, or vain is his power of creative thought. It has been observed—though Raphael was unhappily an exception—that painters are generally long-lived and healthy, and that, of all the professors of science and art, they are the least liable to alienation of mind or morbid effects of the brain. One reason may be, that through the union of the opposite faculties of the excursive fancy and mechanic skill—head and hand balancing each other—a sort of harmony in their alternate or co-efficient exercise is preserved habitually, which reacts on the whole moral and physical being. As Raphael carried to the highest perfection the union of those faculties of head and hand which constitute the complete artist, so this harmony pervaded his whole being, and nothing deformed or discordant could enter there. In all the portraits which exist of him, from infancy to manhood, there is a divine sweetness

and repose ; the little cherub face of three years old is not more serene and angelic than the same features at thirty. The child whom father and mother, guardian and stepmother, caressed and idolised in his loving innocence, was the same being whom we see in the prime of manhood subduing and reigning over all hearts, so that, to borrow the words of a contemporary, ' not only all men, but the very brutes loved him : ' the only very distinguished man of whom we read who lived and died without an enemy or a detractor."

In regard to Raphael's alleged subjection to Amativeness, the author of a criticism on Passavant's *Life of him in the Quarterly Review* (vol. lxvi., p. 40), makes the following interesting remarks :—" Raphael was even invited to make designs from the descriptions of Greek paintings ; and, lastly, in order thoroughly to understand the architecture of the ancients, he employed the venerable and learned Fabius of Ravenna to translate Vitruvius into Italian for him. An interesting letter, which Passavant inserts, from Calcagnini to Ziegler, alludes to Raphael's benevolent care of this old man ; and is besides so strong a certificate of the great artist's moral virtues, written as it was soon before his death, that it may be reckoned among the proofs—should proofs be wanting—to contradict the idle story of Vasari, respecting the painter's inordinate attachment to the Fornarina, the alleged cause of his death. Passavant treats the assertion (first published in 1549, by Simone Fornari, and copied from him by Vasari) as it deserves. Earlier biographers make not the slightest allusion to it ; and every other circumstance—above all, the unsubdued, or rather increased energy of the painter's mind up to the very end of his career—abundantly contradicts the absurd calumny."

Mr Haydon, in his description of Raphael in the *Encyclopædia Britannica*, (vol. xvi., p. 714, 7th edition), says : " The glory of Italian art is Raphael. Had he been born in Greece, and qualified by a Greek education, he would have been as great in painting as Phidias was in sculpture ; but the education of all the Italian artists was imperfect, and they seemed to be grounding themselves (even Raphael himself) on the

meagre style of the early painters. The discovery of ancient statues in some degree opened their eyes ; but they were not, like the ancients, gradually prepared for such perfection, nor was Raphael himself even skilled in those perfect principles of beauty, as applied to the naked figure, which distinguished the Greeks. Wonderful, amiable, and gentle creature as he was, the reverse of Michael Angelo in every way, who proved himself decidedly the inferior man. In all his endless inventions, a single repetition of himself, even in the folds of a drapery, is not to be found ; he was not like Titian, an exquisite colourist, but his colour is always agreeable, though not distinguished for light and shade ; and his groups are never obtrusive, though not remarkable for aerial perspective. Every object keeps its place ; though no face of his can compete with the beauty of the ancients, his women always enchant ; his great power was character and expression, and telling a story by human passions and actions ; in these he was unrivalled in modern art, and not surpassed by the ancients."

Thirty years after the death of Raphael, Vasari published a biography of him, which, although not very accurate in its historical details, contains many interesting facts regarding the illustrious painter. The following abridgment of his description of Raphael's character and genius will form a fit termination to the present notice. It is quoted from the *Quarterly Review*, vol. lxvi., p. 46:—

"His death was deeply deplored by the whole court, the more so as the Pope himself, who was much attached to him, wept bitterly. For us who survive him, it remains to imitate the good, nay excellent, method he has taught us, and as his great qualities deserve, and our duty bids us, to cherish his memory in our hearts, and speak of him with the high respect which is due. For, in fact, through him we have the art in all its extent, colouring and invention, carried to a perfection which could hardly have been hoped, and in this universality let no human being ever dream of surpassing him. Among his extraordinary gifts there was one which especially excites my wonder ; I mean that it should have

been granted him to infuse a spirit among those who lived around him, so contrary to that which is generally prevalent among professional men. The painters—I do not allude to the humble-minded only, but to those of an ambitious turn, and very many of this sort there are—the painters who worked in company with Raphael lived in perfect harmony, as if all bad feelings were extinguished in his presence, and every base, unworthy thought had passed from their minds. This friendly state of things was never so remarkable as in Raphael's time ; it was because the artists were at once subdued by his obliging manners and by his surpassing merit, but more than all by the spell of his natural character, which was so benevolent, so full of affectionate kindness, that not only men but even the very brutes respected him. It is said that if any painter of his acquaintance, or even any stranger, asked him for a drawing which could be of use to him, Raphael would leave his work to assist him. He always had a great number of artists employed for him, helping them and teaching them with the kindness of a father to his children, rather than as a master directing his scholars ; for which reason, it was observed, he never went to court without being accompanied from his very door by perhaps fifty painters, all clever in their way, who had a pleasure in thus attending him to do him honour. Happy those who were employed under him, for it appears that whoever endeavoured to follow his example turned out well : in like manner, those who hereafter shall take his works as models will be honoured accordingly in this life, and if they resemble him in the excellence of his character, may hope to win the favour of Heaven in another."

The coincidence between these descriptions of Raphael's talents and dispositions and the account of his cerebral development before given, is too obvious to require elucidation.

CHAPTER X.

REMARKS ON THE WORKS OF RAPHAEL.

ONE of Raphael's early pictures is *Lo Sposalizio* (the Esponsal of the Virgin by Joseph), in the Brera Gallery at Milan, mentioned on page 39, and bears Raphael's name and the date 1504. There is about it a certain stiffness of manner and juvenility of expression characteristic of youth; but, in the great elements of composition, drawing, and expression, it shews extraordinary powers and attainments. As Raphael was then only twenty-one years of age, and as he, even in this early effort, surpassed his master, and presented results which the most accurate observation and analysis of the human mind and body confirm, we are naturally led to ascribe great importance to the instinctive inspirations of the faculties as the fountains of success in art. The most prominent figure in the picture is the priest, on whose right side stands the Virgin, and behind her five female attendants; on his left, Joseph, and the same number of male friends. Joseph is in the act of placing the ring on the Virgin's finger. The priest is a pure, amiable, dignified character, with a fine combination of vigour with age. All the other figures represent persons in humble life, but they are admirably treated. The head of the Virgin is a perfect model of female loveliness. The anterior lobe is fully developed, the lower ridge and middle-perpendicular portions (constituting the observing and practical organs) predominating. The coronal (or moral) region is large, and of beautiful proportions; the head is so placed as to shew a large development of the organs of Adhesiveness and Philoprogenitiveness, with small Amativeness; and the person,

attitude, and expression, are full of corresponding grace, gentleness, intelligence, and purity. She is a woman all over; simple, earnest, and affectionate, with no apparent consciousness of her high destiny. Joseph is a carpenter in the picture as well as historically. In his head the knowing organs predominate, the reflecting organs and Ideality being moderate, and the moral organs well developed. The ear is placed high in the head, the external opening of it being on a level with the lower edge of the orbit of the eye, indicating a small development of Alimentiveness, Destructiveness, and other organs in the inferior portion of the brain. The attitude and expression of Joseph's figure and face correspond with these features. They are pure, but not poetical; there is nothing in the whole figure rising above the character of a carpenter, but it represents a pure-minded, amiable, trustworthy, practical man. Behind him stands an attendant, in whom the moral and intellectual organs are largely developed, and the ear is equally high,—bespeaking the same essential character, but with more reflection; and the countenance corresponds. Raphael has introduced his own portrait as one of the attendants, and he seems at home among the graceful group. The whole of the figures are earnestly engaged in the scene.

Here, then, we see Raphael in this, one of his earliest productions, following successfully the most important canons of art. Who taught him, for example, to give such a form of head to the Virgin, when the signification of that combination of forms was scientifically unknown? As formerly mentioned, I saw an artist in the act of copying this picture, who, by careless drawing and shading, converted the pure and graceful form of the hind-neck, indicating a small cerebellum, into a thick voluptuous form, expressive of diametrically opposite qualities.* The same artist lowered the position of the ear in Joseph, thereby increasing the size of several organs of the animal propensities, inconsistent with his

* Prints of "The Espousal of the Virgin" are common; and the head of the Virgin is well drawn in the cut which accompanies Mrs Jameson's *Memoirs of the Early Italian Painters*, published by Mr Knight, vol. ii., p. 88.

character, and which Raphael had made small. The head which Raphael here gives to the Virgin is different from that which he bestows on her in the "*Madonna di San Sisto*," at Dresden; yet both are appropriate. Who taught him to model the head of Joseph in perfect accordance with his character and station? We shall subsequently see that he was not always so successful in adapting the forms of his heads to the characters of his personages; whence I infer that he did not know, as matter of science, the relations between particular forms and expressions; and I am, therefore, led to conclude that his general success arose from his accurate observation of nature, and from that instinctive feeling of adaptation in all her parts, which is borne in upon a highly sensitive and well balanced mind like that of Raphael. His great Conscientiousness, too, while it led him instinctively to love simplicity and truth, would render him scrupulously accurate in his representations of what nature placed before him. I can account for his success in this department of art, only by supposing that he selected the purest and the most excellent women whom he knew, as the models of his Virgins, dropping all individual imperfections, and delicately increasing every lineament and expression that he felt to be pure and elevated; and that he followed similar rules in regard to this and other characters. We are informed that this was Leonardo da Vinci's mode of study; and he approaches closely to Raphael in the same admirable adaptation of the forms of his heads to the characters and expressions of his figures.

The young artist should learn from this not to transfer the forms and expressions of a low model into a picture representing high characters. Rubens has often sinned against this rule. In the Museum at Antwerp there is a picture by him (No. 74 of the catalogue), entitled, "*The Trinity—Christ lying dead in the arms of the Father*;"* in which the an-

* The practice of representing God, the Almighty and Incomprehensible, in any form, and particularly in that of an old man, has always appeared to me irreverent and illogical;—as a sin equally against taste and reason. No combination of ideas can be more incongruous and disagreeable than that of clothing the Omnipotent and Everlasting in forms which are the natural emblems of feebleness, decay, and death.

terior lobe of the Father is broad and full, but not high, the coronal region is flat and broad, and the base of the brain is large—indicating a low, sordid, and cunning character, full of worldly prudence, but a stranger to every great conception and elevated emotion. The expression of the countenance so exactly corresponds with this character, that on seeing it I was led to infer that it was a portrait. What sort of a man would Raphael have chosen as his model of the Father? His works enable us to answer,—The highest and the purest that human nature presented. Not so Rubens. Being deficient, as he apparently was, in that highly developed coronal region which distinguished Raphael, he was deficient also in the intuitions which it communicates, and did not recognize the significance of the forms and expressions which he used. He selected *his own grandfather* as his model, and deliberately transferred him to the canvas, with all his earthliness unmitigated, as the representative of God! This is proved by the acknowledged portrait of his grandfather, under the character of Time, painted by Rubens himself, for his own tomb in the church of St Jacques. Well might Sir Joshua Reynolds remark of this picture, that it presents "an unimpressive and irreverent representation of the Deity, under the figure of an old man."

The characteristics which Raphael, in this early picture, bestowed on the Virgin, are never lost sight of in his subsequent representations of her, which are very numerous. He does not repeat the same forms and expression in his different Madonnas, but he uniformly observes the same great principles. In none of them, that I have seen, is there a large base of the brain, or a trace of sensuality in the expression; in none of them is the coronal region or the anterior lobe deficient; and in none of them is there a want of female delicacy, loveliness, and grace, or of the highest intellectual power which is compatible with feminine nature. This fact is the more interesting, because it cannot be predicated of all other great painters, and also because Raphael's mistress, "*La bella Fornarina*," although occasionally introduced as a spectator in his pictures, is never to be discovered

in any of his Madonnas; and for the best of possible reasons—she was an earthly woman, and Raphael seems to have instinctively felt her unsuitableness to represent a high character. Portraits of her are extant, which shew beautiful forms, but with a substratum of sensual feeling, which at once consigns her to an inferior rank in art as well as in morals. His “*Madonna di San Sisto*,” universally known by prints and copies, is a wholly different being from the Virgin in the “*Espousal*,” nevertheless she possesses all the high qualities which belong to her character. One grand difference consists in a large addition to the upper part of the forehead in the Dresden picture, giving greater intellectual depth and gravity to the countenance; accompanying which we find a corresponding increase of seriousness and reflection, of solidity and weight of mind, thrown into the countenance, while all that is feminine is still beautifully preserved. Her age, also, is increased. In the “*Madonna di Foligno*,” in the Vatican, the figure is again varied, but still it is full of grace, repose, and dignity. The Virgin and the other figures in this picture are so natural that they actually seem to live. A little angel in front is a perfect gem of sunny and ethereal, yet substantial and chubby beauty.

As a contrast to Raphael's Virgins, we may contemplate one by Murillo. In the “*Stanza di Apollo*” in the Pitti Palace at Florence (No. 39 of the catalogue), there is a picture by this artist representing the Virgin with the infant Jesus in her lap. She is superior in all her qualities to the generality of Murillo's female characters. Her forehead is of ample, yet natural size, her organ of Benevolence is high, her features are small, and her complexion fine—all attributes of an elevated character. He has desired also to communicate to her a moral and intellectual expression, but has not fully succeeded. The face across the cheek-bones is too broad, and the chin and mouth are too small in proportion to this breadth for perfect beauty; while the expression of the countenance is so indefinite and mixed that one cannot give a name to it. Although she is refined and good, she is anxious and ill at ease; and instead of displaying the quiet

gravity which in nature accompanies high moral and intellectual qualities, she looks slightly bewildered. In short, Murillo appears to have striven to embody sentiments which he did not feel, and reflecting powers which he did not comprehend. The infant Jesus is well drawn, and the forms and proportions of his figure are natural; but his expression also is anxious and discontented. A portrait of Murillo which I met with, shews a less development of the organs of reflecting intellect, and smaller moral organs, than those possessed by Raphael, with large organs of the perceptive faculties and the propensities. He understood well, and represented admirably in his pictures of vulgar life, the repose of the propensities; but the harmony and beauty which accompany a large and well proportioned development of the moral and intellectual organs seem to have been much less familiar to him—perceived to some extent by his intellect, but imperfectly realized by his consciousness. One of the highest productions of Murillo's pencil which I have seen, is his "Holy Family," No. 13 in the National Gallery of London. In it Joseph has a fine moral and intellectual head, and corresponding expression. The forms of the infant Jesus are simple and childlike, yet refined and dignified; while the Virgin is pure but cold, and the coronal region of her head is flat, in perfect harmony with her frigid looks. I infer that he succeeded in Joseph because he had met with a high model; and failed in the Virgin, because in representing her he either drew from an inferior model, or invented forms corresponding to her character, such as it was conceived and felt by his own mind, which wanted the high qualities that guided Raphael in his embodiment of female excellence. In the Louvre there are several admirable pictures by Murillo; but as a general rule, he is inferior to Raphael in representing truthfully and harmoniously high moral and intellectual characters.

The progress of Raphael's mind, from the undeveloped strength and immaturity of judgment which accompany youth, to the full blaze of manly vigour, may be traced in his pictures. "The Crowning of the Virgin," an oil-painting

in the Vatican,* is one of his early productions. We see in it his genius and grace, but they emit comparatively feeble rays when contrasted with his maturer works. There is an almost boyish playfulness of fancy about it, and some careless drawing, marking the unformed artist. Some of the Angels, for example, have only heads and wings, while others, to whom bodies have been given, are playing on the common musical instruments of the day, and hovering round the Virgin and her Son in the act of serenading them. The head of Christ is much inferior in form and expression to its style in his later works, while the Apostles who stand round the open sarcophagus are graceful but juvenile and wonder-struck men. Some of them have well-formed heads, but smooth, inexpressive cheeks, deficient in that mental life and character which accompany well-formed and active brains.

In the Doria Gallery, in the Corso of Rome, there is (No. 26) a "Deposition from the Cross" by Raphael, said to have been painted when he was twenty-four years of age, and to be the first of his works "in which an historical subject is dramatically developed." It bears evident marks of a mind that had not attained its full vigour. The colouring, though soft and harmonious, is rather feeble, and the grouping is defective in ease. The expression of nervous life and energy is deficient, and, consequently, there is a want of thought and emotion in the characters. The figure clothed in blue drapery supporting the shoulders of Christ, and another with a light-yellow fold over his right shoulder, standing between the female figures, are the highest in point of mental energy.

Raphael, as is universally known, was employed to decorate several of the chambers of the Vatican. He dedicated the first saloon, the "Camera della Segnatura," to representations in fresco of Theology, Poetry, Philosophy, and Jurisprudence. The picture in illustration of Philosophy is com-

* Il Vaticano descritto ed illustrato, vol. vi. Tav. 71.

monly called "The School of Athens."* The cartoon from which it was painted with some variations, is in the Ambrosian Library at Milan. It is about 30 feet long, is drawn with black chalk on grey paper, and is in perfect preservation. "It represents," says Mrs Jamieson, "a grand hall or portico, in which a flight of steps separates the foreground from the background. Conspicuous, and above the rest, are the elder intellectual philosophers, Plato, Aristotle, Socrates: Plato characteristically pointing towards heaven; Aristotle pointing to the earth; Socrates impressively discoursing to the listeners near him," &c. The following remarks occurred to me after studying both the cartoon and the finished fresco.

"The School of Philosophy," mentioned on page 33, possesses the great characteristics of Raphael's genius. It represents a scene replete with life, action, and interest; yet quiet, calm, graceful, and dignified. The composition is excellent, and no trace of study in the placing and grouping of the figures is discernible. They all seem to have taken the places, and fallen into the attitudes, naturally springing out of their occupations. Each is engaged in his own department,—some teaching, some listening, and some studying. Each is unconscious of everything foreign to his own occupation. The figures represent philosophers and students of the highest order. There is no pedantry, no excited intensity, nothing to proclaim consciousness on their part that they are distinguished men, or that they are doing any thing for which they expect to be admired. We look on the scene of their daily life, yet we discover their greatness. Some uncertainty, however, prevails concerning *what* Raphael meant to represent in this picture. Shortly after his death it was said to contain a religious subject; but opinion has now pretty generally settled into the belief that it is the "School of Athens," a conclusion which appears to me to be strongly supported by the details of the work itself. Kugler† says, "The general arrangement of this picture is most mas-

* Il Vaticano descritto ed illustrato, vol. vii., tav. 31.

† Handbook of the History of Painting, book v., chap. iv.

terly. . . . The style is grand and free ; a picturesque unity of effect seems to have been the artist's aim throughout ; and this aim he has attained most perfectly." I cordially subscribe to the soundness of this criticism, and add that the effect of the composition is increased by the entire absence of every thing like study in the arrangement of the figures. In the picture of "Theology" on the opposite wall, the grouping is seen to be the result of reflection and design ; the centre object is chosen, and figures are introduced, and placed in certain attitudes, obviously for the sake of balancing the two sides of the picture. In "The School of Athens" all is natural and graceful, and the superiority of the effect strikes every intelligent observer.

Kugler proceeds:—"The taste of design (in the School of Athens) both in the nude and in drapery is excellent, and is everywhere guided by the purest sentiment of beauty." There are, however, some important exceptions to the correctness of this remark. In general where the character is high, Raphael gives a high moral and intellectual development to the head, and adds to it a corresponding body, graceful, refined, and intellectual. I trace the interest which all feel in such figures to the circumstance that their character is brought out by means of appropriate forms and proportions in the head, the trunk, and the limbs ; by life and fineness of texture in the animated surfaces ; and by expression, attitude, and occupation, corresponding to their intellectual qualities and moral emotions. Raphael graduates these qualities in different figures with wonderful skill ; while lowering them to represent inferior characters, he preserves harmony in all the parts, and proceeds without abrupt transitions until he reaches the bottom of the scale, where we find the low mind accompanied by a low brain, by harsh forms and inelegant proportions, coarse texture, and ungraceful attitudes ! For example : In this picture, a little to the right of the centre (the left of the spectator), he presents Socrates clothed in green drapery. The head is copied from the ancient busts of this philosopher, and corresponds exactly with his historical character. It is long, the anterior

lobe of the brain is large, and the coronal region is high, particularly in the situations of the organs of Benevolence and Veneration. But the portion behind the ear, and the position of the ear itself in relation to the coronal region and the anterior lobe, indicate a considerable development of the base of the brain; which forms also correspond with his historical character.* In strict conformity with this combination, and with the historical busts, Socrates exhibits the short nose and severe forms in the mouth and lower portion of the face, which bespeak a well-developed base of the brain; but these features, and the rest of the countenance, are softened, elevated, and lighted up by a fine moral and intellectual expression, corresponding to the high development of the moral and intellectual regions, and the active manifestation of these in which he is engaged. His figure and attitude proclaim the ascendancy of the higher powers. They are graceful, earnest, and full of mind; but in his countenance the existence and vigour of the lower propensities, as part of his nature, are distinctly recognisable. He is using his fingers in elucidating a proposition to his scholars, who, also earnest, graceful, and intellectual, are grouped around him.

In the foreground, almost in the centre of the picture, there is a figure reclining on a stone pedestal or table; his left hand is pressed on his cheek, his elbow rests on the table, and he is writing with his right hand. It is not mentioned whom this figure is intended to represent; but the manner in which he is treated is altogether worthy of Raphael. Although in Athens, this man is not a Greek. He has a Roman head; that is to say, the base of the brain is very broad, the region of the perceptive organs is largely developed, but that of the coronal region is only moderately high. The temperament is purely bilious. This portrays a powerful physical man, with an acute observing intellect, but without high moral and reflecting attributes; and, in conformity with this character, Raphael has bestowed on him strong black hair, hardness and harshness of features, a thick form

* These forms are well brought out in plate xxxi. of *Il Vaticano descritto*, before referred to, and deserve a particular study.

of person, with strong and rather coarse limbs, indicated in the naked knees and hands ; while his attitude is constrained, and the forms of his drapery are heavy and inelegant.

Nothing can be more perfectly harmonious and true to nature than these two figures in all their parts.

Contrasting with them both, is the figure of Diogenes reclining in the centre of the foreground between the groups, and apart from all. He appears with a Greek head, which exhibits a comparatively narrow base of the brain, a well developed coronal region, and a large anterior lobe. This combination indicates a high moral and intellectual character, and Raphael has accordingly bestowed on him a graceful, well-proportioned person, of fine texture, and a graceful, easy attitude. Yet there is an error in the face. The artist has given him the ill-natured cynical expression which corresponds with his historical character ; but this is at variance with the soft, amiable, good, and graceful head and figure with which it is associated, and to which it does not belong. The head should have represented Self-Esteem, Destructiveness, and Secretiveness *plus*, and Benevolence, Veneration, and Conscientiousness *minus* ; the forms and attitude should have been cold and stiff ; and then there would have been harmony between the countenance, head, and body.

If space permitted, I could point out other errors in this picture, similar to those which occur in the figure of Diogenes ; but the number of them is small, and, taken altogether, the merits of this work are surpassingly great. The figures, which are numerous, stand a physiological and mental analysis with extraordinary success.

In making these criticisms, however, I beg again to remark, that in assigning particular names and characters to the figures we may be doing injustice to their great author ; for there is no authentic evidence that *he* meant them to represent the personages now mentioned. It is therefore only when he deviates from the consistency of nature,—when, for example, he bestows on the supposed Diogenes the form of head which indicates kind, social, and benevolent dispositions,

and combines with it a cynical expression of countenance,—that he is open to just censure. Farther, these great frescoes are placed considerably above the spectator, and I found the expressions and apparent forms of the figures in some degree to vary according to my position; whence, errors in judgment may unconsciously have been engendered. To avoid such mistakes, I visited the pictures again and again, and compared my remarks with the best prints; but still I desire to judge modestly, for prints are not always safe guides, owing to occasional carelessness in copying and engraving. For example, during my visits, an artist had sketched out and finished the chalk drawing of a copy of this picture, and I observed that instead of copying the head of Socrates such as it is drawn by Raphael, and before described, he lowered the position of the ear, enlarged the posterior region of the head, and, instead of rounding it, carried it perpendicularly up, thereby enlarging certain animal organs, diminishing the organs of Concentrativeness, and enlarging those of Self-Esteem and Firmness. He also added a portion to the organs of Veneration, while he diminished the indication of intellectual power by shortening the anterior lobe. In Raphael's Socrates, the head leans gently and earnestly forward to teach—the natural attitude which would be assumed by a man having the form of brain which the painter has bestowed on him; but the head as drawn in the copy represents a different character, a self-esteeming, opinionative, vulgar man, and the attitude and expression are at variance with its forms. A teacher who possessed a head like that of Socrates in the copy, would have carried his head high, and looked magisterially and sternly.

Raphael's own head, as we have seen, was of moderate size, and his natural superiority apparently sprang from a high quality of brain, and an admirable combination of organs. The display of gigantic power and stormy passion, therefore, were not within the sphere of his natural endowments,; which was that of grace, beauty, purity, and calm moral and intellectual dignity. It is mentioned, however, that after he became acquainted with Michael Angelo,

whose head and temperament were very different from his, and whose manner of feeling and painting was bold and energetic, he adopted a freer and bolder style, approaching in some degree to that of his distinguished rival. Critics are divided in opinion whether Raphael really improved the merits of his works by this imitation of Michael Angelo's manner. As might naturally be expected, the preference is given to his original style by those in whom the brain is developed similarly to Raphael's own; while his adopted style is preferred by those whose brains more closely resemble that of Michael Angelo. Those critics especially, in whom the organs of Form and Size are but moderately developed, are distracted by the great size of the figures in the new style, while those in whom these organs are very large, feel his original style, in so far as form and proportion are concerned, to be contracted, timid, and feeble. Bold forms and large masses alone fill up and gratify their capacious powers.

"The Fire in the Borgo,"* is one of the most successful examples of his new manner. The Borgo is that part of Rome which lies close by the Vatican. It is represented as on fire, and in the midst of the conflagration the Pope appears at a window of that palace, and stays the progress of the flames by miraculous power.

The first circumstance which strikes an observer, is the calm atmosphere in which the Pope stands; although high on a balcony, not a fold of his robes is moved; while in the foreground, in the close neighbourhood of the fire, the draperies of the women who are flying from it, or carrying water to extinguish it, are agitated by a powerful wind—so violent, indeed, that Kugler speaks of "their drapery being tossed in grand folds by the storm." This is a mistake—there is no storm; but Raphael, with that extraordinary correctness of observation which he so generally displayed in his works, represents, with philosophical exactness, the powerful rush of air which, in a still atmosphere, a great fire creates towards its own centre. It is more distinguishable the nearer we approach to the fire, and is hardly perceptible,

* Il Vaticano descritto, vol. vii., tav. 23.

because it scarcely exists, in the distance. Kugler says: "A great number of beautiful and noble figures are brought together in this picture. The figures of the two young women who carry vessels of water, with their drapery tossed in grand folds by the storm, are very beautiful. In the naked figures, on the contrary, however beautiful in the principal group, there is a manifest endeavour to display a knowledge of form, perhaps from a wish to rival the powerful figures of Michael Angelo." The figures of the young women and of the naked children (escaping from the flames) here alluded to, have a certain grandeur of outline when considered in their general effect; which was probably all that the artist aimed at accomplishing. But when we examine them in detail, they appear to me to be unsatisfactory. The arms and legs of the women are large and coarse, even to clumsiness; and the forms and expressions of their faces are of a low type. The naked children are lumps of fat flesh. Forms certainly are strongly expressed; but viewing them as connected with proportion and expression, they are mean forms. Is it a rule of art that size alone is capable of conferring grandeur, and that *forms* may be pleasing in their outlines, although the texture and expression be coarse and low? Homer gave extraordinary size to his gods; but he did not fill up his outlines, or even complete them so far as to present us with the proportions of their parts. The Artist is more circumscribed. His figures must possess definite proportions, and texture, as well as magnitude; and although grandeur may be aimed at in the size, yet unless the proportions and texture harmonize, the result may be unpleasing.

I grant that in this picture Raphael represents a suburb on fire, and individuals of the humblest class escaping from or labouring to extinguish the flames; and that a vigorous controversy may be maintained whether in a picture such figures should possess grace and beauty, or only those qualities which would most probably be found in their originals in nature. Assuming that Raphael is right in depicting the kind of men who would naturally be found in such a locality and scene, is he correct in giving grand outlines and low

texture and expression to such beings? To settle this question would require an essay for itself; but my present impression is, that wherever high natural qualities are compatible with the scene represented, they should be introduced in preference to low; and that more perfect grace than Raphael has introduced was compatible with the subject of this picture. Nature's nobility are sometimes found in the humblest rank; and the painter is authorised to select them for his designs. At all events, he should render their different qualities consistent.

It appears to me that in this work Raphael has stretched his forms beyond the limits within which his genius could successfully deal with them. In enlarging the size with a view to attaining grandeur of effect, he has lost in some degree his command over proportion, texture, and expression; just as a fencer, who could wield a small sword with grace and dexterity, might strain, falter, and make awkward passes with a heavy claymore. All Raphael's pictures in which he has attempted this grand style and form, are inferior in their other qualities to those in which he has followed his natural manner. In this opinion I am supported by the authority of Kugler himself, who says, that, "like all other artists, Raphael is always greatest when, undisturbed by foreign influence, he followed the free original impulse of his own mind. His peculiar element was grace and beauty of form, in as far as these are the expression of high moral purity. Hence, notwithstanding the grand works in which he was employed by the Popes, his peculiar powers are most fully developed in the Madonnas and Holy Families, of which he has left so great a number." This criticism is sound; and the truth which it embodies is a direct consequence of the cerebral development and physiological constitution which Raphael possessed. In the picture of Heliodorus the group on the right hand of the spectator, especially the figure under the horse, is thought by many to be the best and most striking illustration of the influence of Michael Angelo's works on Raphael's style. By some his "Theology" is thought to be the greatest of his pictures in the Stanze.

CHAPTER XI.

THE CARTOONS BY RAPHAEL.

As the object of the present chapter is to discuss the principles of art in connection with Raphael's brain and genius, rather than to criticise his works in detail, I shall now consider the Cartoons—those great designs which are accessible to the British public, and which are justly regarded as among the most successful productions of his pencil. These are pictures on a large scale, which were prepared for and worked by a Flemish weaver into tapestries, to adorn the Sistine Chapel in Rome. The originals having been left in neglect in the warehouse of the weaver at Arras, seven of them were afterwards, on the suggestion of Rubens, purchased by Charles I. of England. They were originally twenty-five in number, but many of them are lost, and the seven are now in the Gallery at Hampton Court. The intention of the artist was to represent certain striking incidents in the history of the Church. Hazlitt gives the following description of them, which is correct, in so far as regards their general qualities:—

“Compared with these (says he), all other pictures look like oil and varnish; we are stopped and attracted by the colouring, the pencilling, the finishing, the instrumentality of art; but *here* the painter seems to have flung his mind upon the canvas. His thoughts, his great ideas alone, prevail; there is nothing between us and the subject; we look through a frame and see Scripture histories, and are made actual spectators in miraculous events. Not to speak it profanely, they are a sort of a revelation of the subjects of which they treat; there is an ease and freedom of manner about

them which brings preternatural characters and situations home to us with the familiarity of every-day occurrences ; and while the figures fill, raise, and satisfy the mind, they seem to have cost the painter nothing. Everywhere else we see the means ; here we arrive at the end apparently without any means. There is a spirit at work in the divine creation before us ; we are unconscious of any steps taken, of any progress made ; we are aware only of comprehensive results, of whole masses of figures ; the sense of power supercedes the appearance of effort. It is as if we had ourselves seen these persons and things in some former state of our being, and that the drawing certain lines upon coarse paper by some unknown spell brought back the entire and living images, and made them pass before us, palpable to thought, feeling, sight. Perhaps not all this is owing to genius ; something of this effect may be ascribed to the simplicity of the vehicle employed in embodying the story, and something to the decaying and dilapidated state of the pictures themselves. They are the more majestic for being in ruins. We are struck chiefly with the truth of proportion, and the range of conception—all made spiritual. The corruptible has put on incorruption ; and, amidst the wreck of colour and the mouldering of material beauty, nothing is left but a universe of thought or the broad imminent shadows of calm contemplation and majestic pains."

This encomium relates only to the *general effect* of the Cartoons ; a few words may be expended in analyzing the separate merits of each, and we may consider the pictures in the order in which they are arranged in the Gallery.

1.—THE DEATH OF ANANIAS.

This picture receives the highest praise from critics and artists ; but it is placed in such an unfavourable position in the Gallery, under the shade of a wall, that although I paid several visits to the collection, I never was so fortunate as to meet with light enough distinctly to scrutinise it. For this purpose a day of bright sunshine is necessary. I therefore offer no remark on its merits.

2.—ELYMAS THE SORCERER STRUCK WITH BLINDNESS.*

"And now, behold, the hand of the Lord is upon thee, and thou shalt be blind, not seeing the sun for a season. And immediately there fell on him a mist and a darkness; and he went about seeking some to lead him by the hand."—*Acts* xiii. 11.

Mrs Jamieson gives the following description of this Cartoon:—

"The Proconsul Sergius, seated on his throne, beholds, with astonishment, Elymas struck blind by the word of the Apostle Paul, who stands on the left: an attendant is gazing with wonder in his face, while eight persons behind are all occupied with the miraculous event which is passing before their eyes; two lictors are on the left; in all fourteen figures. Size 14 feet 7 inches by 11 feet 4 inches.

"This cartoon, as a composition, is particularly remarkable for the concentration of the effect and interest in the one action. The figure of St Paul is magnificent; while the crouching abject form of Elymas, groping his way, and blind even to his finger-ends, stands in the midst, and on him all eyes are bent. The manner in which the impression is graduated from terror down to indifferent curiosity, while one person explains the event to another by means of gesture, are among the most spirited dramatic effects Raphael ever produced."

This criticism conveys a just idea of the general effect of the picture; but we may inquire into the means by which it is produced. Assuming the artistic qualities of drawing, colouring, and composition, to be present in a high degree, the questions remain, What kind of human beings has the painter introduced? What parts has he assigned to each, and in what manner has he adapted their mental and physical attributes to the qualities and offices which he confers on them? The scene is in Greece, and an important personage in the drama is Sergius Paulus, the Roman proconsul, seated

* Il Vaticano descritto, vol. vii., tav. 6. This picture is there named "San Paolo innanzi al Preside;" and it is reversed. This is the case also with a number of other prints of the great pictures which I have seen, and is a serious detraction from their merits.

on his throne. An ordinary artist might have introduced the figure of any well-made man, and considered him a fit representative of a Roman governor; but not so Raphael. He has placed on the throne a being the very fac-simile of the old Roman statues in Rome, and of the Trastevere men of modern days, who obviously are the descendants of the ancient Romans, and who retain their organization unchanged. The figure is self-consistent and Roman throughout. The head is large; it is broad at the base; there are a large anterior lobe, a rather low coronal region, a bilious-nervous-lymphatic temperament, and a large broad chest; and in exact correspondence with this combination the figure is well-formed, but thick and muscular. It is characterized by strength, much more than by grace or elegance; but there is so much of the express stamp of intellect upon it, that it is neither coarse nor vulgar. The other figures are individuals, and their self-consistency is admirable.

The Sorcerer's head is covered, but we see that the anterior lobe is developed chiefly in the knowing region; and the expression of the countenance is that of an inferior mind, yet neither vulgar nor feeble. There is no trace of Wonder or Ideality in his features, nor of any high sentiment: he is a practical knave and not a visionary. Apparently he does not believe in his own sorcery. He has a selfish, business-like look, indicating that he makes gain of public credulity. These are the permanent elements of his character, expressed through his organization. His temporary expression is scarcely so well adapted to his circumstances. He is suddenly struck blind, and his whole being, from head to foot, manifests the puzzle of the intellect which the event induced; but there is in the face and attitude no terror, no surprise, no anger. There is simply the perplexity, the shrinking back, the groping of unexpected blindness. There must have been either intense insensibility, or extreme Secretiveness and Firmness in the character, to render such an expression (the puzzle without surprise or terror) natural in the circumstances. Whatever induced Raphael to bestow on him this

character, he has at least the merit of rendering all parts of the figure consistent. It is reported, that Garrick having objected to the truth of the Sorcerer's action, Benjamin West, who was present, requested him to shut his eyes and walk across the room; in doing which, he immediately shrunk back, stretched out his hands, and began to grope his way, with the exact attitude and expression here represented. May we not infer that Raphael, by an exercise of tact and judgment, selected the kind of man that he conceived the Sorcerer to be, blindfolded him, made him walk, and exactly copied his appearance? If so, the painter forgot that his model represented only a man whose eyes had, with his own consent, and by perfectly natural means, been blindfolded for the moment, and whose attitude and expression, therefore, represented merely the blindness and puzzle of his situation, but nothing of astonishment or terror—for the simple reason, that, in his case, there was nothing to excite either emotion. A greater analytic knowledge of the human faculties, and of the influence of external circumstances in calling them into action, would probably have induced the artist to add the emotions of terror and surprise to those of perplexity and blindness, and thus have rendered the representation more true to nature, and complete.

Immediately behind Elymas is a figure in light greenish-blue drapery, with his hands stretched out to assist him. The head here is uncovered. It is of full size, with a broad base, and a full anterior lobe, developed chiefly in the lower and middle lines; deficient in Ideality, and also in Wonder. The whole body and expression correspond. It is a business-like, practical head, and the expression is one simply of a business-like interest in the event, with such a degree of surprise only, as a business-like practical mind would experience. The temperament is bilious-nervous, and the texture of the skin and forms of the features indicate strength predominant over refinement. The character of firmness and strength pervades the whole figure, and the attitude and drapery display Raphael's usual sound judgment and correct taste.

The figure on the spectator's extreme right (the extreme left of the picture) is another complete and harmonious individual. The temperament is nervous-sanguine-bilious, the base of the brain is moderate, and the moral and intellectual regions are those of a common average man. The expression is lively, corresponding with the temperament ; it is free from all taint of low propensity, correspondingly with a moderate base of the brain, yet it is not *spiritual* or poetically beautiful, thus harmonising with a moderate Ideality ; it is acute, but not profound, in accordance with a fully developed but not great anterior lobe ; and although vivacious it is not frivolous, in accordance with a full size of brain and corresponding solidity of character. The figure is tall, animated, active, and handsome, and although it does not attract attention by its beauty, yet it is pleasing in its effects.

Next to, and backwards from, this figure, is seen an old man with a bald head and white beard. Compared with the last mentioned figure, the temperament is more purely nervous, and the intellectual organs are larger. Raphael has also given a large organ of Ideality to this head, and he has infused the refined quality which this combination produces, into the texture of the skin and expression of the countenance. The features are more finely cut, and there is that blending of fine texture, fine form, and fine colouring, which accompanies a great endowment of Intellect and Ideality.

Here we see that Raphael, with skill in composition and beauty of form and colouring, combines truth in the individual characters of the beings whom he represents. He gives to each a certain temperament, and a certain size and form of head—in other words, the external signs of certain talents and dispositions—and then he works out all the subordinate details in harmony with the mental basis. Even the folds of the drapery are imbued with, and speak forth, the qualities indicated by the form of the head, and temperament. His figures, therefore, interest us as real beings with the same qualities would do ;—they are individuals in character, con-

stitution, form, and expression; and yet they are not copies of ordinary men and women. They are representations of real men and women, but invested with a degree of grace, elevation, and refinement, which genius discerns by its inward lights in the highest members of the species, and is able to reproduce.

Grace in form and movement is the natural expression of high mental and physical qualities, and harmonious proportion is its most important element. In painting and sculpture, attitude is the only representation which can be given of motion. It is motion arrested at the moment chosen by the artist for his event, and it is determined by the mental impulses which at that instant animated the being represented. Generally speaking, Raphael's attitudes are in harmony with the mental expression, and both are admirably true to the physical qualities indicated by the brain; but, as already mentioned, there are exceptions. Guided, as he must have been, chiefly by a sort of inspiration or intuition proceeding from his own fine quality of brain, and finely combined cerebral organs, he generally reached the standard of true poetic nature, but not always. In this picture of Elymas the Sorcerer, for example, Paul's head and expression are those of a hard, sharp, and irritable mind, excited by anger. These qualities historically belonged to Paul; but, unfortunately, Raphael seems in this case not to have combined with them the expression of moral grandeur and dignity. I shall have occasion to revert to this subject when treating of Paul preaching at Athens.

3.—THE HEALING OF THE LAME MAN AT THE BEAUTIFUL GATE OF THE TEMPLE.*

" 'Then Peter said, Silver and gold have I none; but such as I have I give unto thee. And he took him by the right hand, and lifted him up.' —Acts iii. 6, 7. Under the portico of the Temple of Jerusalem stand the two Apostles Peter and John; the former is holding by the hand a

* Lib. cit., vol. vii., tav. 3. "Risanazione dello Stropio." This engraving reverses all the figures, and alters them considerably. It is copied from the tapestry, and probably the deviations have been made by the weaver.

miserable deformed cripple, who gazes up in his face with joyful, eager wonder; another cripple is seen on the left. Among the people are seen conspicuous a woman with an infant in her arms, and another leading two naked boys, one of whom is carrying two doves as an offering. The wreathed and richly adorned columns are imitated from those which have been preserved for ages in the church of St Peter as relics of the Temple of Jerusalem."

Mrs Jameson's artistical criticisms on this cartoon in the *Memoirs* from which I have copied this description, are spirited and acute, and appear to me to be sound. As her work is in every body's hands, I shall not quote her remarks, but only add that in this picture St John is far inferior to the St John of Leonardo da Vinci in "The Last Supper." In the latter, this apostle has a large intellectual, with a very high moral development, particularly in Benevolence and Veneration; and his expression and attitude are the sweetest, the meekest, the most engaging and graceful, that can be conceived—altogether worthy of the disciple whom Jesus loved. Raphael's St John has an anterior lobe of moderate size, the lower region predominating, while the moral region also is only moderately developed. He appears with a broadish face, a sanguine and lymphatic temperament, and a pensive but not a high expression of countenance; altogether, an amiable but common-place man. The cripples, on the other hand, are represented with extraordinary skill. Their heads as well as their bodies are ill-formed, yet so managed as not to be repulsive. Their anterior lobes are pretty well developed, the base and back portions of the brain are large, and the coronal regions are deficient. The character indicated by this development is one of passion and animal energy, accompanied by some degree of intellect. It tells of sin as well as of suffering. Here, ill-proportioned and ill-shaped bodies correspond with ill-shaped brains; yet the traces of intellect and of animal energy, diminished, but not extinct, ward off all sentiment of meanness. Moreover, as much of grace in the attitudes and outlines as is compatible with the characters, is added to complete the effect.

4.—THE MIRACULOUS DRAUGHT OF FISHES.*

“ ‘ When Simon Peter saw it, he fell down at Jesus’ knees, saying, Depart from me, for I am a sinful man, O Lord.’—*Luke* v. 8. On the left Christ is seated in a bark, in the act of speaking to St Peter, who has fallen on his knees before him ; behind him is a youth, and a second bark is on the right. Two men are busied drawing up the nets miraculously laden, while a third steers. On the shore, in the foreground, stand three cranes ; and in the distance are seen the people to whom Christ had been preaching out of the ship or boat.”

Mrs Jameson adds : “ In this cartoon the composition is very beautiful ; and the execution, from its mingled delicacy, power, and precision, is supposed to be almost entirely from Raphael’s own hand. The effect is wonderfully bright.” These remarks are artistically correct, but in some points Raphael has in this picture fallen below his own usual standard. Christ is sitting in the end of the boat. The figure is fine, free, natural, and graceful, but the head is not happily treated. Whatever might have been its form in a simple attitude, it is here turned partially to the side, the effect of which position is, that it appears to rise too much in the region of Self-Esteem and Love of Approbation ; the ear is so far forward that a short, poor look is given to the anterior lobe ; and the coronal region, as presented to the spectator, is only full. The diminished appearance of the anterior lobe arises from the face being partially turned from the spectator. This attitude is attended with a double disadvantage : while it takes off from the apparent size of the anterior, it enlarges that of the posterior portion of the head—a sure method of detracting from the indications of a high character. Another consequence is, that the features are small, and the lower part of the face recedes so much, as to have an air of feebleness. The temperament is sanguine-lymphatic, and the character expressed by the figure altogether, is that of a soft, sanguine, amiable, small man. The hand also appears small.

* Lib. cit., vol. vii., tav. 11. This plate also is reversed, and in some particulars altered. The form of the head of Christ is rather improved upon that of the cartoon, but the expression is unworthy of the character.

The other figures, particularly the two in the boat with Jesus, are full of life and truth. They have practical heads, in which the knowing intellectual organs predominate, with an average coronal region, and bilious temperament. They are not men of a high order; but they are first-rate specimens of their class. The incident in the text before quoted is represented in the most admirable manner. Simon Peter, a plain Jewish fisherman, is here penetrated, soul and body, by a profound sense of the greatness of his Master, and of his own unworthiness; but in his expression there is no weak surprise, no crouching nor recoiling, as if he were himself a base being: the effect produced is a profound yet rational apprehension of his Master's holiness and power; he manifests deep veneration, slightly mingled with fear—emotions which would naturally spring up in a rational, practical, well-constituted mind, placed in such circumstances. The form of the head is in harmony with this character. The other disciple in the boat is highly excited by the miraculous draught, and his mental state is diffused through and shines forth from every portion of his figure. Yet, again, it is the excitement of a fine rational well-balanced mind. There is great beauty in the form and attitude of this figure. The “strange black birds,” be they herons or cranes, partake of the excitement of the men, and add greatly to the spirit of the picture.

5.—PAUL AND BARNABAS AT LYSTRA.*

“ ‘Then the priest of Jupiter which was before their city brought oxen and garlands unto the gates, and would have done sacrifice with the people; which when the apostles Barnabas and Paul heard of, they rent their clothes.’—*Acts* xiv. 13, 14. On the left Paul and Barnabas are standing beneath a portico, and appear to recoil from the intention of the townsmen to offer sacrifice to them; the first is rending his garment and rebuking a man who is bringing a ram to be offered. On the right, near the centre, is seen a group of the people bringing forward two oxen; a man is raising an axe to strike one of them down; his arm is held back by a youth who, having observed the abhorrent gesture of Paul, judges that the sacrifice will be offensive to him. In the foreground appears the

* Lib. cit., vol. vii., tav. 8. This plate also is reversed.

cripple, no longer so, who is clasping his hands with an expression of gratitude ; his crutches lie useless at his feet : an old man, raising part of his dress, gazes with a look of astonishment on the restored limbs. In the background, the forum of Lystra, with several temples. Towards the centre is seen a statue of Mercury, in allusion to the words in the text : ' And they called Paul, Mercurius, because he was the chief speaker.' "

The composition of this cartoon is highly praised by artists, but as a picture it is not so interesting to me as those before mentioned. Paul is tearing open his vestments to shew them that he is a man, and his face is looking down, and much in the shade. The forms and expression are hard, harsh, and unpleasing. Barnabas stands behind him, and in the cartoon his head is indistinctly seen ; but in the plate mentioned in the foot-note, he is represented with a deficient anterior lobe, the reflecting region almost wanting, a small coronal region, and a large base of the brain, all enveloped in a thick massy covering of hair. The forms and expression of the face correspond with this combination. He is a silly, angry, excited, gaping, staring man. Paul beside him looks, in the plate, like a Jupiter Tonans, he is so powerful, and so full of scorn. The most interesting objects are two beautiful, intelligent, natural-looking boys standing at the altar, and a vigorous, athletic man, who, with an up-lifted axe, is about to kill an ox in sacrifice. This man's head is, in point of form, a common one, but it is large ; the temperament is bilious, the thorax ample, and the figure is strong, hard, and muscular ; every line of it being in harmony with all the rest. The ox is well painted ; and, on narrowly examining the heads to the right of the spectator (left of the cartoon), some of them are found to be fine in their forms and proportions ; but generally they are deficient in character, and uninteresting.

6.—ST PAUL PREACHING AT ATHENS.*

" Then Paul stood in the midst of Mars' hill, and said, Ye men of Athens, I perceive that in all things ye are too superstitious. For as I passed by and beheld your devotions, I found an altar with this inscription, To the unknown God."—*Acts xvii.* 22, 23.

* Lib. cit., vol. vii., tab. 9.

Mrs Jameson gives the following eloquent description of this picture: "Paul, standing on some elevated steps, is preaching to the Athenians in the Areopagus; behind him are three philosophers of the different sects, the Cynic, the Epicurean, and the Platonic; beyond, a group of sophists disputing among each other. On the right are seen the half-figures of Dionysius the Areopagite and the woman named Damaris, of whom it is expressly said that they 'believed and gave unto him.' On the same side, in the background, is seen the statue of Mars, in front of a circular temple. In point of pictorial composition this cartoon is one of the finest in the series. St Paul, elevated above his auditors, grandly defined in bearing, as one divinely inspired, lofty in stature and position, 'stands like a tower.' This figure of St Paul has been imitated from the fresco of Masaccio in the Carmine at Florence. There Paul is represented as visiting St Peter in prison. One arm only is raised, the forefinger pointing upward; he is speaking words of consolation to him through the grated bars of his dungeon, behind which appears the form of St Peter. Raphael has taken the idea of the figure, raised the two arms, and given the whole an air of inspired energy wanting in the original. The persons who surround him are not to be considered a mere promiscuous assemblage of individuals; among them several figures may each be said to personify a class, and the different sects of Grecian philosophy may be easily distinguished. Here the Cynic, revolving deeply, and fabricating objections; there the Stoic, leaning on his staff, giving a steady but scornful attention, and fixed in obstinate incredulity; there the disciples of Plato, not conceding a full belief, but pleased at least with the beauty of the doctrine, and listening with gratified attention. Farther on is a promiscuous group of disputants, sophists, and freethinkers, engaged in vehement discussion, but apparently more bent on exhibiting their own ingenuity than anxious to elicit truth or acknowledge conviction. At a considerable distance in the background are seen two doctors of the Jewish law. The varied groups, the fine thinking heads among the auditors, the expression of

curiosity, reflection, doubt, conviction, faith, as revealed in the different countenances and attitudes, are all as fine as possible ; particularly the man who has wrapped his robe around him, and appears buried in thought. This figure also is borrowed from Masaccio. The closed eyes, which in Masaccio might be easily mistaken for sleeping, are not in the least ambiguous in the cartoon ; his eyes indeed are closed, but they are closed with such vehemence that the agitation of a mind perplexed in the extreme is seen at the first glance. But what is most extraordinary, and I think particularly to be admired, is that the same idea is continued through the whole figure, even to the drapery, which is so closely muffled about him that even his hands are not seen ; by this happy correspondence between the expression of the countenance and the disposition of the parts, the figure appears to think from head to foot."

I have cited this criticism at full length, because, although it coincides with the opinions generally expressed by connoisseurs and artists, I am reluctantly led to dissent from it in relation to the most important figure in the picture, namely, that of St Paul himself. This figure appears to me to be the least successful representation of a great moral character which Raphael has left behind him. I was struck with its deficiencies in the tapestry woven from the cartoon when I saw it in the Vatican ; then the idea occurred to me that the weaver must have altered the head ; but on studying the original cartoon in Hampton Court, I find that it bears exactly the same character. The anterior lobe is of only moderate size, the coronal region is deficient, and the base and hind portions of the head are very large ; all indicating a low, irritable, contentious disposition, unredeemed by great moral and intellectual powers. St Paul, highly excited, is uttering the words, " Ye men of Athens, I perceive that in all things ye are too superstitious ;" but the excitement, although true to the character of the head, is altogether inconsistent with that of a great and good man. In the forms and expression of the face, there is no intellectual depth, no moral grandeur, even no religious inspiration. On

the contrary, there is a sharp, querulous, and almost mean expression, bespeaking a small brain and feeble mind, roused by anger.

St Paul's combination of faculties probably presented a difficult subject of analysis to Raphael, and one which his own consciousness was not calculated to enable him successfully to explore. The historical Paul seems to have been by nature a man of powerful intellect and violent temper, but interested in religion, and sincere. In phrenological language, he must have had a large brain, with large organs of Combativeness, Destructiveness, Self-Esteem, and Firmness, giving rise to vehemence, severity, and perseverance; also large organs of Conscientiousness, Wonder, and Veneration, producing moral sincerity and religious enthusiasm: to all which must have been added a large anterior lobe, the reflecting region predominating; for he manifested great force of character in his actions, and powerful metaphysical and argumentative talents in his writings. Raphael, perhaps, had too decided a preponderance of the moral and intellectual organs in his own brain to be able to realize the consciousness or inward state of being of such a man so vividly as to be able to represent him successfully in a state of excitement. Singularly enough, and in corroboration of this conjecture, he did not himself invent this figure, but, according to tradition, borrowed it from Masaccio. Raphael must have laboured under great difficulties before he needed to borrow an entire figure from any artist; and, moreover, he must have been deserted by his intuitive genius when he adopted the St Paul of Masaccio. This painter appears from his portraits to have had very large knowing organs, especially those related to art, but to have been very moderately gifted with those of reflection; and he also was but ill qualified to penetrate into the character of St Paul, and to realize it on canvas.

The original of Raphael's figure has been ascribed by other critics to Filippino Lippi, a monk "whose life appears to have been most scandalous, even without consideration of his religious habits." If so, he too was a polluted source from

which to derive the image of a great teacher of Christianity. I have not seen Lippi's figure, but Raphael's approaches so very close to that of Masaccio that I am disposed to assign the original conception of it to him. In one respect Masaccio's is superior to Raphael's. It is calm, and the mental expression is more dignified than it is in Raphael's saint. Be the origin of the figure, however, what it may, I venture to affirm that St Paul, from the qualities which he displayed, and the impression which he made, should have been represented with a far higher moral and intellectual development of brain, and a far higher mental expression, than are here bestowed on him. Such a head, and such a mind, manifesting themselves in such an expression of countenance and body as we have here, could not have roused, or retained for five minutes, the attention of the superior order of men who constitute his audience. Combativeness and Destructiveness give great fire and power to the mental manifestations, when combined with high moral and intellectual qualities; and this combination, we have reason to believe, characterized St Paul in an eminent degree. We have here, however, only the querulousness and excitement of the lower feelings, without the weight, dignity, refinement, and mellow blending softness of the higher powers. By nature, St Paul belonged to that class of men of whom Luther and John Knox are eminent specimens; and we know by their portraits that they possessed an average development of the higher, combined with considerable size in the inferior organs, such as I have here ascribed to St Paul. Raphael himself must be placed in the class of which Melancthon is a fit representative; and hence, as I have said, probably arose his difficulty in portraying St Paul from his own inspiration.

The drapery, attitude, and figure of St Paul, merit the artistic encomiums bestowed on them; but they are not in harmony with the mind of which they are the expression. To have been correct, they should have been less dignified and graceful. They are far superior to the head and expression; but this remark is more applicable to Raphael's figure than to that of Masaccio. In the latter, the head of St Paul

presents large size, large organs of the propensities, great Firmness, and powerful intellectual organs ; while the attitude, drapery, and expression, are characterized by strength, more than by grace and refinement. Raphael has lowered the character of the head and facial expression, while he has added to the grace and dignity of the attitude and drapery. Sir Joshua Reynolds, in the passage before quoted, recognises the fact that, in a perfect picture, the drapery bespeaks the mind which animates its folds. According to this rule, the mind represented in the head and face of St Paul never could have produced the air, attitude, and grace of the person and drapery bestowed on him.

The listeners grouped around St Paul, merit special consideration. They are a miscellaneous audience, comprising a variety of characters, conditions, and pursuits ; and their heads, attitudes, and expressions correspond with their qualities.

The figures composing "The School of Athens," are philosophers, men of mind and learning, assembled to cultivate science and letters. In both pictures the scene is in Athens. On analyzing and contrasting the groups in the two pictures, however, we find in "The School of Athens," scholars and gentlemen. High moral and intellectual minds express themselves in calm, refined, graceful, and dignified countenances, attitudes, and draperies. We are in the very presence of the noblest faculties of man, clothed with form, and personified. In "Paul Preaching," on the other hand, we see an inferior class of persons. They are not a selected, but a miscellaneous group, accidentally assembled. Their heads, expressions, and attitudes, are lower, but still they are fine specimens of humanity. The penetration, tact, and judgment, which led Raphael to make such distinctions, is equally admirable and wonderful.

8.—THE CHARGE TO ST PETER.*—"Feed my sheep."—

John xxi. 16.

"Christ is standing and pointing with the right hand to a flock of sheep ; his left hand is extended towards Peter, who, holding the key,

* *Lib. cit.*, vol. vii., tav. x.

kneels at his feet. The ten other apostles stand behind him, listening, with various gestures and expression, to the words of the Saviour. In the background a landscape, and on the right the Lake of Gennesareth and a fisher's bark."

In this picture Christ stands at full length, with his face towards the spectator. Raphael has bestowed on him a brain of an average size, with a moderate anterior lobe. Benevolence and Veneration are well developed, but Ideality and Wonder are deficient, and the expression of the countenance corresponds with this combination. It is that of a sober, serious, good man, taking leave of his friends; but it is deficient in depth of thought, weight and dignity of character, and also in that refined spiritual look which is given by Ideality and the moral sentiments, and which expresses most forcibly a fine and exalted nature. There is no trace of the divine nature of Jesus in this figure. Here also in head and expression St Peter is a common-place Jew, and the other disciples are deficient in individual character. The same outline, forms, and expression, are repeated with slight modifications, in five of them seen in profile; and nearly the same forms and expression appear in two others, whose full faces are presented to the spectator. The whole picture appears to me to be much inferior in vigour and inspiration to several others of the cartoons.

Here I beg leave to close my remarks on Raphael and his works. I fear that to many readers they may have appeared tedious and uninteresting; but I hope that to the thoroughly instructed phrenologist some principles may have been stated, which may serve to direct his judgment in criticising works of art. I have aimed also at shewing that the highest genius, placed in the most favourable circumstances, cannot, without the science of his art, *always* attain to the most perfect conceptions of his figures, or preserve the consistency of nature in working out his details. If I have cited few, and these only the most popular authorities, in regard to the opinions which I have either approved of or ventured to controvert, it is because, in the works on

art which I have read, I have succeeded in finding but little sound or serviceable philosophy. The Discourses of Sir Joshua Reynolds, and the criticisms of Kugler and Mrs Jameson, appear to me to be more generally characterized by solid sense and truth, than the works of many other authors; and it is on this account that I have confined my citations chiefly to them. Many of Mr Haydon's principles of art also are sound, and were drawn by him avowedly from Phrenology; but his knowledge of that science was only general and superficial. The merits of the principles of criticism now propounded can be competently judged of by those only who are to some extent physiologists, phrenologists, and observers of life and manners, as well as students of art; and to the judgment of such critics I shall willingly defer.

APPENDIX.

APPENDIX, No. I.

REMARKS ON COLOUR-BLINDNESS

REFERRED TO ON P. 17.

Dr George Wilson, in an interesting work, "On the Prevalence of Chromato-Pseudopsis, or Colour-Blindness," has investigated the subject with great ability, and tested, by extensive observations, and acute analytic reasoning, every theory of it, except the phrenological. He says, "I have made no cranial examination myself of any of the cases of colour-blindness known to me, not from indifference to the matter, but because, as I must frankly confess, I am unable to distinguish such differences between the development of one superciliary ridge and another, as I find other observers declare themselves able to do; and I, therefore, give no opinion founded on personal observation on this question." He nevertheless remarks, that the general result of more extended inquiry has not been favourable to the "phrenological conclusions;" but on looking into his pages for the record of this "more extended inquiry," we find only three authors quoted, not one of whom has been recognised as a scientific phrenologist in the same sense as Dr Wilson is acknowledged to be a scientific chemist. I should have greatly preferred the verdict of such an able investigator as he is himself, founded on his own observations, to the testimony or opinions on which he appears to rely. What would he think of an investigator who rejected, untried, an interesting alleged fact in chemistry, supported by the authority of all recognised chemists, and denied only by non-chemists, on the ground that he had not learned to perform the manipulations necessary to bring it to the test of experiment. He says, "It appears vain, therefore, to expect to discover the existence of *colour-blindness*, by so rude an external indication, as the *prominence* over a small area of one of the plates of the skull," (p. 108.) In this opinion I entirely agree with him; but, this is obviously an inaccuracy of expression; for he elsewhere refers it to a depression. It is not the *prominence*, nor even the degree of prominence, but the *depression* of the skull

at the area in question, which indicates colour-blindness. As he speaks of "one of the plates of the skull," apparently he had the frontal sinus in his mind as presenting an obstacle to observation on this organ; but phrenologists have constantly repeated, that in determining this question, or any other connected with the organs in the superciliary ridge, the proper way is to select individuals whose heads present a great and manifest depression in the part in question, such, for instance, as occurs in the head of Mr James Milne. A depression of this kind, phrenologists affirm, is *uniformly* accompanied by a greater or less degree of deficiency in the mental power of perceiving, discriminating, and remembering colours; not, however, in all cases amounting to colour-blindness. The reason of the uniformity is, that, *ceteris paribus*, the mental power bears a relation to the size of the organ, and depression of the skull is the certain indication of deficiency of brain. If there be *no sinus*, the brain will be at least *as deficient* as the external depression indicates; while, if a *sinus does exist*, the inner table of the skull will be still more depressed than the external, and if this part of Phrenology be true, the deficiency, both of brain and of mental power, will consequently be *greater* than the external indication of the skull. The effect, therefore, of any error possible in regard to the size of the organ, is simply to extend the deficiency beyond that indicated by the external appearance, and thus to bring more strikingly into view the phenomenon of imperfect judgment of colours. Let negative cases, therefore, of strong, well-marked character, be examined, and the result will be conclusive.

It is in vain to meet conclusions founded on such instances, by citing instances, as Dr Wilson does, of individuals who were colour-blind, and in whom the skull was *not externally* depressed at the part in question; because the phrenologists have always said that *a sinus may exist* there, (although in healthy subjects it rarely extends so far laterally), and that, in such cases, the possibility of its presence throws a *difficulty* in the way of predicating, *a priori*, from a large development of the external surface of the skull, the *positive possession* of a strong mental power of colouring. This obstacle exists in the case of all the organs liable to be affected by the frontal sinus, but it leaves the negative cases unaffected.

Dr Wilson, indeed, cites the late Lord Jeffrey as an individual who "was pronounced by phrenologists to have a feebly developed organ of colour, but who has recorded himself to have received great delight from the spectacle of brilliantly coloured objects, and had a remarkable power of matching colours from memory."

The case of Lord Jeffrey is discussed in the "System of Phrenology," vol. ii., p. 62, *fifth edition*, and I have never seen it adduced as a tenable case against Phrenology, except by Lord Jeffrey himself, and now by Dr Wilson. Some new light, however, has dawned on it.

In the work referred to in the text, p. 17, Mr D. R. Hay, speaking of

colours, says—"It is true that there are individuals whose powers of vision are perfect in so far as regards the appreciation of light, shade, and configuration, but who are totally incapable of perceiving the effect of the intermediate phenomenon of colour, every object appearing to them either white, black, or neutral gray; others, who are equally blind as to the effect of one of the primary elements of colour, but see the other two perfectly, either singly or combined; while there are many who, having the full physical power of perceiving all the varieties of the phenomenon, and *who are even capable of making nice distinctions, are yet incapable of appreciating the æsthetical quality of harmony which exists in a proper combination of the elements of chromatic beauty.* It is the same with respect to the effect of sounds upon the ear—some have organs so constituted, that notes above or below a certain pitch are to them inaudible; while others, with physical powers otherwise perfect, are incapable of appreciating either melody or harmony in musical composition."

After perusing these observations, I requested Mr Hay to read Lord Jeffrey's statement of his own endowments in regard to colour, and my commentary on them, and to favour me with his opinion of the degree of *mental power* in this department, which his Lordship's statement appeared to him to indicate, altogether irrespective of the question about the organ.

He sent me in reply the following communication:—

To George Combe, Esq.,

JORDAN BANK, 26th February 1855.

DEAR SIR,—In reply to your note of the 19th instant, I beg to say that in the professional transactions in which I was occasionally engaged by my highly esteemed employer, the late Lord Jeffrey, I was led to believe firmly that the degree of his mental power in appreciating the beautiful in colour made no approximation to the other intellectual powers for which he was so remarkable. In respect to single colours he was peculiarly fastidious in his choice, but seemed quite incapable of appreciating that harmony which, in nature, and in art, is the result of a simultaneous exhibition of properly constituted varieties. A strong proof of this came under my notice about thirty years ago, and as it is still fresh in my memory, I shall give you it in detail.

The firm of Nicholson and Hay, of which I was the junior partner, was employed to paint the house of this eminent lawyer in Moray Place; and it being considered an important work, it was, of course, superintended chiefly by the senior partner, Mr Nicholson. The proof to which I allude was given in the mode in which the colour of the dining room was determined on. Mr Jeffrey said he wished to have a colour which he had in his mind, but which he did not think he had ever seen, and explained it as something between the colour of an old parchment and an Etruscan vase. Various specimens of such a colour were painted in spaces of about a

square yard each around the room, but none of them came up to his ideal hue. While more specimens were in preparation, he one day said that in returning from the court, he had seen on the street an old lady with a shawl of the identical colour of which he had formed the idea, but could not explain in what it differed from the specimens already exhibited on the walls. At last he found another example of his colour upon the light part of one of the limbs of the figure of a Venus in an old picture, supposed to be by Titian, which hung in his business-room. This colour was so carefully matched, that a spot of it being put upon the part pointed out could not, at a very little distance, be distinguished from that which surrounded it. A specimen of this colour was also put upon the wall of the dining room, but it did not give full satisfaction in that situation, and was variously modified before it was finally decided on. My position as junior partner, and my want of experience, prevented me from taking a prominent part in any of the discussions that took place upon these and similar occasions during the progress of the work. But I was particularly struck with the fact that neither was there any reference made to the colour of the border of the old lady's shawl, nor to those of the draperies, the back-ground, and other accessories of the picture; for these, undoubtedly, had much to do in determining the specific character and tone of the hue which they surrounded. I also remarked that when any casual reference was made to the other colours which the furniture would bring into juxtaposition with that upon the wall, it was passed over as a matter of little or no importance.

Such matters of a similar nature as I have had the honour subsequently to be engaged upon by Lord Jeffrey at Craigerook Castle, being generally under the direction of Mrs Jeffrey, afforded me but few opportunities of making further observations on his Lordship's powers of appreciating chromatic beauty; but such as did occur only confirmed me in the impression originally made by the facts stated above, namely, that this great and amiable man, notwithstanding the other mental powers by which he was so highly distinguished, was defective in that of comprehending and appreciating the natural principles of beauty in colouring.—I remain, &c.,

D. R. HAY.

I rest the conclusion that Lord Jeffrey really had not a great power of appreciating colours on the fact that his delight was in brilliant colours, whereas individuals who enjoy great sensibility to tints prefer rich and mellow colours finely harmonized; 2dly, on Mr Hay's testimony that he was unable to describe the colour he desired to have painted; and, 3dly, that he absolutely denied the existence of harmonic relations between colours, and shewed practically that he was blind to them. As his brain was remarkable for general sensibility and activity, these phenomena, in my opinion, could not have occurred had his organ of Colouring been large.

Dr Wilson, after dividing the theories on the subject of colour-blindness into the two most prominent, one referring colour-blindness to the chromatic condition of the *optical apparatus of the eye* in one or other of its parts ; the other "to peculiar organization of its nervous apparatus, including so much of the brain as is essential to vision," says: "This latter view is now nearly universally adopted, although it is necessarily greatly modified in its mode of statement by the metaphysical or psychological views of those who embrace it," (p. 77.) Phrenologists generally regard the anterior pair of the quadrigeminal bodies as the cerebral parts necessary to vision ; but refer the perception of *colour* to the portion of the *anterior lobe*, named by them the organ of Colouring.

He continues—"I do not discuss the *retinal* theories of colour-blindness minutely, for the greater number of them are either mere descriptions of this affection of vision in the terms of a hypothesis which regards the retina as its seat, or they are speculations which connect such an assumption with views regarding the organization of the membrane in question, which neither admit of being confirmed or refuted." He appears, therefore, to reject the retinal theory, as well as the phrenological. After setting aside the phrenological observations as inconclusive, he says—"But it is assuredly desirable that observations should be multiplied on this point, and that the condition of the brain in the colour-blind should be carefully noted," (p. 108.) In this remark I cordially concur with him.

In one point of view, however, the acknowledgment of the truth of the phrenological proposition that colour-blindness is connected with a deficient development of the organ of Colouring, would not solve the question which Dr Wilson has so ably discussed. It would only transfer to that part of the brain the interest which has hitherto been expended on the retina and other parts of the eye as the *seat* of the defect, and leave unsettled the problem on what special condition of the cerebrum the phenomena depend. But by determining the connection of the perception of colour with a particular part of the brain, we should gain an advantage analogous to that which followed the discovery of the geological locality of coal: it saved waste of time, labour, and expense in searching for coal where it did not exist; and in like manner the verification of the phrenological proposition will put an end to the waste of time and talent in seeking for the cause of colour-blindness in parts of the organism where it is not to be found.

APPENDIX, No. II.

NOTE RELATIVE TO A SKULL LONG BELIEVED IN
ROME TO BE THAT OF RAPHAEL.

In volume ii., p. 329, of the *Phrenological Journal*, the late Mr William Scott published an elaborate and able essay on the genius and cerebral organs of Raphael, estimating the latter from a cast of a skull preserved for centuries in the Academy of St Luke at Rome, and generally represented to be that of Raphael. Subsequently, however, the tomb of Raphael in the Pantheon at Rome was opened, and the skeleton, including the skull, was found inclosed in the coffin; demonstrating the spurious character of that preserved in St Luke's. (See *Phren. Journ.*, vol. ix., p. 92.) The opponents of Phrenology conceived that this discovery necessarily implied a refutation of the whole science, and published many exulting strains of victory. The answer to their objections was easily given. The skull in question had been reputed, for two centuries, to be that of Raphael; a cast of it was transmitted to Dr Gall as such, and he described the cerebral development which it indicated. Subsequently, Mr William Scott, assuming the authenticity of the skull, gave a more minute measurement and description of it, and compared it with the genius and dispositions of Raphael. His estimate of the organs agreed with that of Dr Gall; and there was so close a coincidence between the talents and dispositions indicated by the skull and those manifested by Raphael, that not only was no doubt of its authenticity excited, but Mr Scott founded on this coincidence as a strong evidence in favour of the truth of Phrenology. When, however, the spurious character of the skull was discovered, this evidence necessarily fell to the ground, and, in point of fact, it was at once given up. But the skull, with its forms and proportions, remained, indicating certain dispositions and talents, precisely as it had done before. The only change that occurred was, that the person was unknown to whom it had belonged. The opponents fancied that the phrenologists had taught that *mere development* of brain confers genius, and that the owner of such a skull must necessarily have been a great artist; but this was an error. They had unceasingly taught that a high temperament is indispensable to the higher order of mental manifestations. The temperament of Raphael was known from his portraits; but that of the owner of this skull was unknown. The head was unquestionably largely developed in the organs which bear reference to art; and it was trite doctrine, that, with an inferior temperament, this would produce the amateur, and with a high temperament the artist. Difference of temperament, therefore, was of itself sufficient to

account for this being the skull of a mere dilettante or amateur of the fine arts. The opponents did not attempt to shew that the owner of the skull, although in full health, *did not* manifest in this lower degree the qualities indicated by the development. If they had done so, they would have converted the case into a direct proof against Phrenology; but, in the position in which they left it, they could legitimately boast only of having deprived Phrenology of the evidence which it was supposed to afford in its favour; a point which the phrenologists voluntarily conceded.

Subsequent researches, however, have done justice both to Phrenology and to this skull. They have established, first, that the real skull of Raphael bears an extraordinary resemblance to this one in the great majority of its parts, and that, where the two differ, the genuine skull corresponds more completely than the reputed one with Raphael's real character, which in one point at least, that of Amativeness, had been previously misrepresented; and, secondly, that the reputed skull had belonged to an individual who, though not an artist, was the founder of a society for the cultivation of art—a fact clearly indicating his character as an amateur. It was discovered that this was the skull of Don Desiderio Adjutorio, who founded the Society of the Virtuosi of the Pantheon, in 1542. (*Phren. Journ.*, viii., 567; ix., 92.)

APPENDIX, No. III.

HISTORICAL NOTICE OF THE DISCOVERY OF THE ANATOMY OF THE BRAIN.

In the following notice, the phrase “old method” of dissecting the brain means the way of slicing it, whether from above, from below, or from the sides, or in cutting off small portions and shewing their obvious appearances. During the prevalence of this method, no attempt was made to demonstrate systematic relations between the different portions of the structure, or to connect them with any theory of the functions.

By the “new method” is meant the mode of dissection in which the different parts are considered in connexion with and in relation to each other; beginning at the *medulla oblongata*, and examining the successive additions and distributions towards the convolutions, and from them back to the centre of the brain, *i. e.*, the diverging and converging fibres, the origins of the commissures and the structure of the convolutions.

Long before Dr Gall's day, the fibrous structure of the brain was known to anatomists; and Gall and Spurzheim named in their works,

many authors who had recognised it. They claimed, however, priority in instituting the mode of dissection by which they discovered and demonstrated the "successive additions" to the structure as it proceeds upwards; "the aggregation of various parts; the two great sets of fibres" (diverging and converging;) "and the unfolding of the convolutions."—(*Examination of the Objections made in Great Britain against the doctrines of Gall and Spurzheim*. By J. G. Spurzheim, M.D. Edinburgh, 1817. P. 24.) "We positively maintain," says Dr Spurzheim, "that these ideas are not found in the works of any anatomist before us. All that has been observed by our predecessors is, that the external parts of the *crura* are connected with diverging fibres, which since Vieussens have been described as descending to and communicating with the medulla oblongata" (p. 33).

In 1795 Reil published an essay in Gren's Journal, in which he says, "Each crus being embraced by the optic nerve, spreads out like an unfolded fan, almost horizontally, below the great cavity of the brain, towards the inferior and lateral parts, and towards the extremities of the brain."—(*Gren's Journal*, i. p. 102.) These words are applicable only to the parts which Vieussens had shewn, and which Monro and Vieq d'Azyr had attempted to represent. "There is no mention made of the two orders of fibres diverging and converging, none of the two sets of the diverging fibres, not even of the diverging bundles in the great cavities of the brain."—(*Spurzheim, Lib. cit.*, p. 34.)

Dr Gordon of Edinburgh, and the British anatomists in general, assert that Reil has been defrauded by Gall and Spurzheim; that *he* has the merit of having revived the investigations of the fibrous structure of the brain in modern times; that he is the original discoverer of these ideas, and that they have borrowed them from his writings. Dr Gordon says, "But the final results of Reil's investigations into this singular structure are to be found in two essays, the first of which is inserted in the *Archives of Physiology* for 1809; and the second in the same work for 1812, each being illustrated with engravings, particularly the last, which are remarkable for their clearness and accuracy. I have compared both these papers with nature, and am satisfied that Reil has left little for his successors either to correct or to discover in this department of the anatomy of the brain. To these valuable dissertations, however, not the least allusion is made either by Gall or his partner in any of their writings. And yet the essay in *Gren's Journal* was published thirteen years before these gentlemen presented their Memoir (which is their first composition) to the French Institute; and five years, at least, I presume, before they were even heard of as anatomists in Europe."—(*Observations on the Structure of the Brain*. By John Gordon, M.D. Edin., 1817. P. 98.)

Let us inquire, then, into the historical truth of these representations.

In Vienna Gall, in his anatomical demonstrations, expounded the leading points of the new method of dissecting the brain. This fact is proved by reference to a work published in Munich in 1804 by "Walther, M.D.," under the title of "Neue Darstellungen aus der Gallschen Gehirn- und Schedellehre, mit einer Abhandlung über den Wahnsinn, die Pädagogik und die Physiologie des Gehirns nach der Gallschen Theorie!" He dedicates a section commencing on p. 60 and ending on p. 79, to "a Critical Revision of the published accounts of Gall's Theory," in which he says: "Among Gall's hearers in Vienna were a great number of universally respected men." "A number of publications on his Theory proceeded from his pupils (schülern); but the authors of others of them were never instructed by him either orally or in writing. Their works, therefore, must be regarded as altogether unconnected with him, and his views must not be judged of by their representations." He gives, accompanied by his own remarks, the titles of a considerable number of these productions which appeared in 1801, 1802, and 1803. A copy of his work is in my possession, presented to me in Vienna in 1837 by Dr Fr. Romeo Seligman.

On the 6th of March 1805, Dr Gall, accompanied by Dr Spurzheim, left Vienna, to which they never returned. He proceeded direct to Berlin, and there repeated his anatomical demonstrations in presence of the medical professors, and numerous auditors. "Outlines of his anatomical and physiological propositions were published, during that spring, by Prof. Bischoff. From Berlin," says Dr Spurzheim, "we went to Potsdam, then to Leipzig, where Dr Knoblauch published an account of our doctrines on the brain. Then the usual demonstrations and lectures were delivered in Dresden, and Mr Blöde published outlines of our anatomical and physiological views. From Dresden we went to Halle, where Professors Reil and Loder, and numerous gentlemen of the profession, honoured us with their presence at the public lectures and demonstrations. With Loder we repeated several times the anatomical demonstrations; and once dissected with Reil a brain *quietly* in his own room. He was so much pleased with our demonstrations, that he gave to Dr Gall some drawings with which he was formerly occupied, *de structura nervorum et cerebelli*. Thus, I beg to observe, that in the summer of 1805, we demonstrated to Reil the same leading points in the anatomy of the brain which we still maintain."—(*Spurzheim, Lib. cit.*, p. 52.)

There is other historical evidence of the structure which Gall demonstrated to these professors. In a letter written by Professor Blumenbach to Dr Albers of Bremen, dated Göttingen, 10th September 1805, the Professor says:—"I congratulate myself uncommonly on having heard Dr Gall, and become more intimately acquainted with him. His lectures were equally interesting and entertaining to me. Unfortunately,

during his stay here we could not procure any fresh human brain. Nevertheless, he dissected for us, in Himly's house, one of an ox, after his method. As soon as I have a little leisure, I will examine a number of brains after the same and different other manners; for the views which he maintains on the organization of the brain, the derivation of some of the supposed cerebral nerves from the spinal cord, &c., are to me extremely important." In 1805, Charles Augustus Bløde published an account of Dr Gall's Lectures at Dresden, of which I possess an English translation, not very well executed, but perfectly intelligible. In it, the main features of Gall's Anatomy, such as he published it in 1810, are described in sections 9, 10, 11, 12, 13, 14. In 1805, there was published the second edition of "*Darstellung der Gallischen Gehirn und Schädel-Lehre von D. C. H. E. Bischoff außerordentlichem Professor, &c., zu Berlin, nebst Bemerkungen über diese Lehre von Dr C. W. Hufeland, &c.*" In the preface to this work, which I have consulted, Bischoff writes, "It is greatly to be lamented that in many of the publications which have appeared during the period of Dr Gall's travels, the discoveries of this highly meritorious man have been treated and criticised in a manner which, although it can have no effect on the instructed, is calculated to lead the diffident and modest student into error. For the consolation and encouragement, however, of every unprejudiced inquirer, let this fact suffice—that the excellent Reil, who, as a thoroughly instructed anatomist and profound physiologist, stands in no need of any commendation from me, rising superior to every egotistical conceit (erhaben über jeden egoistischen Dünkel), declared that 'he had found more in Gall's dissection of the brain than he believed it possible for a man to discover in his whole life.'"—(P. 6.*). Bischoff next adverts to Loder's testimony, and writes, "Loder, who does not yield the palm to any living anatomist, has judged of the discoveries of Gall in the manner following, in a friendly letter written by him to my excellent friend, Professor Hufeland:—'While Gall,' says Loder, 'was at Halle, I had opportunities, not only of attending his lectures, but also of dissecting with him, sometimes alone, sometimes in presence of Reil and several others of my acquaintances, nine human brains and the brains of fourteen animals. . . . The discoveries of Gall in the structure of the brain are of the highest importance, and many of them are so evident, that I cannot conceive how any one with good eyes can mistake them. . . . These discoveries alone are sufficient to render the name of Gall immortal; they are the most important that have been made in anatomy since that of the system of the absorbing vessels. . . . I am ashamed of myself, for having, in common with others, during thirty years, cut to pieces some hundreds of brains, as one slices a cheese, and for having failed to discover the forest

* Bischoff describes Gall's Anatomy, the demonstrations of which he had seen.

on account of the number of trees."—(P. 11.) These quotations appeared also in a work entitled "*Physiologie Intellectuelle*," published in Paris, in 1806, by Dr Demangeon, who had attended Dr Gall's lectures in Hamburg, in 1805: and in "*Cranologie ou Découvertes nouvelles du Docteur F. J. Gall, concernant le cerveau, le crâne, et les organes, ouvrage traduit de L'Allemand*," published in Paris, in 1807, and which also I have consulted. It is a translation of Bløede's work, with numerous notes, and a view of Gall's anatomy from the pen of the translator, in addition to Bløede's description of it. It contains a section entitled "*Remarques et opinions de Hufeland, de Loder, et de Reil, sur la doctrine de Gall*." On pages 181-2, he quotes the foregoing opinions of Reil and Loder.

In the July number of the *Edinburgh Medical and Surgical Journal* for 1806, there appeared an abstract of Gall's examination of the Brain, from the pen of Professor Rosenmüller of Leipsic, and also a review of the publications by Bischoff and Hufeland before mentioned.

In March 1808, Gall and Spurzheim delivered their Memoir, describing their anatomical discoveries, to the French Institute; and in 1810 was commenced the publication of their "*Anatomie et Physiologie du Système nerveux en général, et du Cerveau en particulier*." This important work contains an ample description of the structure of the brain, illustrated by engravings. It was completed in 1819, and consists of four volumes, the third and fourth of which bear the name of Dr Gall alone. The physiological part of it was reprinted, with little alteration, by Dr Gall, in 1825, under the title of "*sur les Fonctions du Cerveau, et sur celles de chacune de ses Parties*."

In 1807 and 1808, Reil published in his Archives, Views of the structure of the Brain, essentially the same as Gall's. He does not claim the merit of discovering that structure, but neither does he mention having learned it from Gall. It is only the notoriety which is here shewn to have existed all over Germany and in Paris, that the discoveries were Gall's, that can excuse this omission. That they were not known where Gall and Spurzheim's demonstrations or works had not penetrated, is historically certain. In the volume of Vicq D'Azyr's works, entitled "*Recherches Anatomiques sur le Cerveau*," published in Paris, 1805, the old system of slicing appears. No attempt is made to trace structural connections. "On procède toujours dans ces planches, comme dans les dissections de haut en bas, et suivant l'ordre des parties qui se recouvrent mutuellement."

In 1802, John and Charles Bell published "*The Anatomy of the Human Body*," in the third volume of which, Charles Bell gives descriptions of the brain, without any attempt to show its fibrous structure. The brain is sliced, and no fibres or connections are traced. The work contains some plates, but none shewing any approach to Gall's dissections.

In 1811, Charles Bell printed "An Idea of a new Anatomy of the Brain, submitted for the observation of the author's friends," in which Gall's discoveries are never alluded to.

In 1812, I saw Dr Barclay of Edinburgh dissect the brain before a large class of students by slicing it from above downwards. He shewed no connexion of the parts such as Gall had demonstrated, and he stated that its particular functions were unknown.

In 1815, Dr Spurzheim published, in London, his "Physiognomical System of Drs Gall and Spurzheim," containing the same descriptions and plates which he and Gall had published in Paris in 1810. In 1815 and 1816, Dr Spurzheim demonstrated in London, Dublin, and Edinburgh, the new anatomy of the brain, before large audiences, including many individuals of the medical profession. I saw him do so in Edinburgh early in 1816.

Nevertheless, in 1815, Dr Gordon, writing in the *Edinburgh Review* of the "anatomical discoveries of Drs Gall and Spurzheim," uses these words: "In this department they have displayed more quackery than in any other, and their bad faith is here the more unpardonable, that it was more likely to escape detection."

In 1822, Mr Herbert Mayo translated Reil's *Anatomy of the Brain* into English, and never alluded to Gall as the discoverer of the structure described.

In 1823-25, Mr Lizars published anatomical plates, in which the old system of slicing is adhered to, and no attempt is made to shew the structure as discovered by Dr Gall.

On the 19th June 1823, the late Sir Charles Bell, read before the Royal Society a Paper on the Nerves of the Orbits (published in the *Philosophical Transactions*, vol. cviii. p. 306), in which he attacked Dr Gall's discoveries in unmeasured language. He reproduced these animadversions in an 8vo vol. in 1824; and again published them in 1830, in a quarto volume, entitled "The Nervous System of the Human Body." In these works he does not hesitate to say "The most extravagant departure from all the legitimate modes of reasoning, although still under the colour of anatomical investigation, is the system of Dr Gall. It is sufficient to say, that, without comprehending the grand divisions of the nervous system, without a notion of the distinct properties of the individual nerves, or having made any distinction of the columns of the spinal marrow, without even having ascertained the difference of cerebrum and cerebellum, Gall proceeded to describe the brain as composed of many particular and independent organs, and to assign to each the residence of some special faculty." Only profound ignorance of the history of Gall's discoveries of the anatomy of the brain can furnish an apology for such language; and the fact that it was republished so late as 1830, shews how prevalent that ignorance still continued to be in England.

In 1827, Mr Mayo published admirable engravings illustrating the structure of the brain and spinal cord in man, with relative descriptions, in which he continues to ascribe the discovery of the anatomy to Reil. His plates are superior in drawing and engraving to those of Gall and Spurzheim, but the structure represented is the same.

Dr Alexander Monro, tertius, in his *Anatomy of the Brain*, published in 1831, alludes to the fibrous structure, but says: "They (the fibres) do not, in my opinion, follow, when viewed by the naked eye, so regular a course as has been described by Drs Gall, Spurzheim, and Reil." He gives no plates to illustrate his own views of their course, but here Gall and Spurzheim are mentioned.

Mr Solly is the first English writer on the structure of the Brain, known to me, who fairly acknowledged Gall's claims. His work "on the Brain," was published in 1836.

Gall's anatomy of the Brain forms the basis of the admirable plates of Cloquet, Arnold, and Foville, and it is now taught, with additions made by subsequent discoverers, in almost every medical school in Europe, and in the United States of North America; but in comparatively few of those in Great Britain is Gall recognised as the discoverer. I can account for this fact only in one way. The war which raged in Europe from 1793 to 1815, with a brief intermission in 1802, isolated England from France and Germany, and the discoveries of Gall were not known here until long after they had been widely diffused in those two countries. When Dr Spurzheim presented them to the English public in 1815, they were so far in advance of all anatomical, physiological, and psychological knowledge then possessed by the British professors and men of science, that they appeared to them to be ridiculous, and were recklessly and unscrupulously rejected. If any of the medical authorities of those days were disposed to view them more seriously, they must have perceived that the great majority who ridiculed them, exposed, on their own part, an extent of ignorance at once painful and humiliating. The few who hesitated to condemn, overborne by the wide-spreading stream of opposition, did not venture to defend, and left the field to their more arrogant and reckless brethren. These transmitted their own ignorance and prejudices to their successors; and the majority of the existing medical teachers, quite unconscious of the facts, hand down these prepossessions to yet another generation. England has a great debt of justice still to pay to Drs Gall and Spurzheim, and the object of this historical sketch is to open the understandings of the young to the real state of the knowledge of this subject possessed by many of their instructors, and to appeal to them to investigate the facts, and form an independent judgment for themselves. The injustice now exposed is too palpable to be denied: to avoid and redress it will form a basis for reputation to inquirers who are still young and uncompromised, far more honourable and secure

than to persevere in the course so unhappily adopted by their predecessors.

There are honourable exceptions to this general charge, and I can only desire that their number was greater.

In these remarks I do not, of course, include avowed Phrenological writers and lecturers, such as Fossati, Vimont, and Broussais of Paris, Dr Elliotson of London, the late Richard Carmichael of Dublin, Dr Weir of Glasgow, and others who have done justice to Gall on every occasion.

P.S.—While the foregoing remarks were in the press, my attention was called to the *Second Edition* of Mr Solly's work on the Brain, published in 1847. In the preface to it Mr Solly writes, "Every honest and erudite anatomist must acknowledge that we are indebted mainly to Gall and Spurzheim for the improvements which have been made in our mode of studying the Brain. For my own part, I most cheerfully acknowledge, that the interest which I derived from the Lectures of Dr Spurzheim at St Thomas' Hospital, about the years 1822 and 1823, has been the inciting cause of all the labour which, for above twenty years, I have at intervals devoted to this subject. I believe that to Mr Green, in his *Dissector's Manual*, is due the honour of first having given to the English student an abstract of Gall and Spurzheim's method of dissecting the Brain. Mr South, in his edition, enlarged it considerably. Believing that, in the first edition of this work, I had, unintentionally, neglected to do Gall and Spurzheim full justice, I got my friend, Mr Streeter, of Harpur Street, who is well acquainted with the subject, to give me a short historical detail of the order in which the labours of Drs Gall and Spurzheim appeared before the world." Mr Solly then publishes a letter from Mr Streeter, dated April 1847, the details of which fully coincide with the narrative before given.

It gives me pleasure to have been saved, by the kindness of a friend from overlooking this most honourable testimony on the part of Mr Solly; and also from the omission of the names of Mr Green and Mr South, as having early done justice to Drs Gall and Spurzheim.

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