THE FINE ARTS AND EDUCATION.

Being a consideration of the place that should be given to the Fine Arts in Educational Systems.

BY FRANCIS BATE.

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But I must suggest other aspects for your consideration. There is governing the appearance of all the different tones of light which, in their inseparable connection with colour relations are known as "values," there is ruling these "values" the effect of the atmosphere. The atmosphere has a colour of its own and a distinctly harmonizing effect upon contrasting values; this atmospheric colour affects the appearance of things even indoors. In open air its influence is much greater and varies in quality and intensity according to the conditions of the atmosphere, brought about, not only by different kinds of weather, but by the different climates of different countries. In all cases it varies with the hours of the day. Morning or evening mist, the vibrating heat at noon-day, or the rain, and even the clearness that precedes rain, is as it were a veil between us and the object of our interest. The effect of this veil is to cause things or objects to look less distinct, by making the shadows of them rather less dark, the lights of them rather less brilliant, and the shape of the tones rather less distinct. It has an effect somewhat similar to that which would result if we hung a fine gauze between us and some object. The greater the amount of atmosphere between us and anything we may be looking at, the less the contrast of the tones, the less brilliant the colours. In some countries the air is dryer and clearer than in our own. But whatever the country or state of the weather, and whatever the distance between us and our subject, be it great or small, there is in a proportionate degree this atmosphere, this outside influence
affecting the appearance of the object, and demanding very great attention in the study of the science of appearances.

It is worthy of all attention, for it contributes to the beauty of all things, and much to the loveliness of landscape. It measures the many miles across the plains, and folds them in a little space. It makes the mystery of the distant hills, the liquid light of sunrise and of sunset. It is the very blue of heaven, the flowing purple of the sea. While it leaves the peaked Alp clear with rosy snows, it creeps to hide the whispering sedge along the river bank.

Some of the most enchanting effects of landscape depend upon this atmospheric colour and its association with a quality of light which is different from the rays proceeding directly from the source of light, and different from the light reflected from immediate surroundings. I must not stop to describe it further,—you know it as diffused light.

Having realized the nature of it, and of atmospheric colour, you will recognise their influence in the appearance of the garden poppy that we are considering. If, being some few feet removed from the particular poppy, we find a similar plant near to us, and we look from one to the other, or, if possible, include them both in the same glance, we see at once such a difference as I have already described, although they are illuminated by the same direct light. The near one is clearer. The shadows of the distant one are not so dark, the lights are not so bright, the colours are not so brilliant. This will be due largely to the amount of atmosphere, greater between us and the distant flower than between us and the near one. I must ask you to notice yet another condition that has to do with the impression we are to receive of our subject. It depends upon the position we occupy relatively to the plant and the way in which we look at it. To this apply chiefly the laws of perspective and geometrical projection, your probable knowledge of which will allow this allusion to them to be sufficient. And yet, to their operation in the matter of focus I should like to draw your attention, even if I cannot, at this time, more than indicate matter for consideration. The range of our vision is limited, laterally and vertically, to an angle of about 90 degrees, the central line of which we know as the "central line of sight." This line of sight is the direction in which we look towards our
subject, and at whatever distance from us our subject may be, the point where this line of sight meets it is called, as you know, in the science of perspective, the "centre of vision." All around this our range of vision is limited by those rays which meet at our eye and make the angle of 90 degrees with their opposite. The plane, perpendicular to the plane containing the line of sight, and at the distance of our subject from us, contains what is called the base of the cone of rays, which comprises our field of vision. The size of this base of the cone of visual rays depends upon the distance from the eye of the object contemplated. The greater our distance from the object, the greater the amount embraced by our field of vision. All this is simple enough, being the very elements of perspective. But there is a fact concerning these visual rays of the utmost consequence to the impression we receive of our subject. It is this, that our sight is strongest through the centre of this cone of rays. That the rays become weaker as they lie towards the outside of the cone.

The image, then, upon the circular base of the cone is strongest at the centre of vision and becomes weaker towards the circumference. We may remove ourselves to such a distance from the poppy plant that our range of vision shall embrace a large proportion of surroundings; or we may approach so near to it that it may fill the whole, or almost the whole, of our field of vision. In this case, that part of the plant which lies immediately around the centre of the field of sight would be the most distinct. The other parts would be proportionately less distinct as they find position towards the circumference. This relative distinctness of the parts is conveyed by a proportionate loss of contrast in the values, a proportionate loss of brilliancy in the colour, and a proportionately imperfect realisation of form arising from loss of definition in the shapes of the tones and colour patches. In the first place, being so far removed from the plant that the whole of it was about equally comfortably and clearly seen about the centre of vision, the indistinctness would become noticeable in its surroundings, the impression of which would be subordinate to the impression of the plant in proportion as they found place near to it or towards the circumference of the field of vision; so that if we had chosen
for the subject of our consideration a whole bed of poppy plants instead of an isolated example, we should have had to decide whether we would remove ourselves to such a distance from them that they would appear altogether as a more or less distinct mass amidst the surroundings of the bed (perhaps so indistinct that we could hardly tell the nature of the plant), or whether, from a nearer position, the plants round about our centre of vision should be distinctly realised in contrast to the growing confusion of those that would be conveyed to us by the weaker visual rays. This focussing of a subject must be consistent, not only with facts of direct and reflected light, local colour and form, but also with the atmospheric colour, the quality of which we found amongst other things to depend upon the amount of space between the subject and the spectator. Hitherto we have considered the appearance of a subject focussed with a fixed centre of vision—that is, with our eyes gazing in one unchanging direction. The painter may record the fact of its appearance consistently with this, or he may constantly slightly change the direction of his gaze so as to bring the different objects which form his subject, or the parts of a single subject, to coincide one after the other with his centre of vision; and he may record the impression of its appearance consistently with this shifting of the eyes. But whichever method be adopted it must be at once evident—obvious at once in the picture—from the subordination of interests to greater interests, from the relation of values, from the relation of atmospheric colour to local colour, from relations of reflections to direct light, from the relative appearance of the first, second and third dimensions, and from the operation of the laws of perspective and geometrical projection, more particularly upon the ground plane and planes parallel to it. But again, all these considerations have been of objects at rest. Movement has a very decided influence upon the appearance of things; it not only blurs the impression of the object, but it may entirely alter the shape of it, its tone relations, and its local colour.

If all these considerations, which are but a few of many, enter into the appearance of so simple a thing as a poppy flower, seen under such simple conditions, with what are we to measure the beauty and interest which our extended vision
must gather through the days of our years? The great cities which, with their satellite villages, shine as constellations in the twilight of the earth, have more within them than the human heart can hold, and that immensity of heaven which rolls above us lights the land unceasingly with glories that we cannot grasp. Not only the seas and the rivers but mountains and meadows, tilled lands and woodlands mirror the lights and colours and forms of the restless skies. Even the shining leaves, and the polished grass-blades bending before the wind, look for their little share of borrowed beauty.

I must bring to an end this slight and imperfect indication of some of the phenomena of the appearance of things and the physiology of the senses connected with them. You will notice that I have left unmentioned that abstraction of some facts of appearance upon which conventional and decorative art and design is based.

Time and your very patience have limited me to the supreme importance of natural appearances and some of the sciences treating of them. The influence of different colours upon each other, harmony and contrast of colour, radiation of light, and the implication of these and other qualities with optics must pass with this reference.

It is thus I have tried (and in doing so I hope I have not wearied you) to convey to you a little of the meaning of the appearance of things, the study and record of which constitute the art and practice of painting and drawing.

If I have succeeded you should at least have recognised physiological reasons for directing intelligent observation in this direction, and you should have gathered some notion of the wealth of knowledge to be gained by doing so. If you will think, there is scarcely a science, or a branch of education, that is not associated with facts of appearance, or a degree of scholarship that is not enlightened by their sympathy. But I have claimed more than this. I have claimed that the education of the sense of sight, by the practice of this art, not only leads us more directly to a knowledge which will absorb at least a part of every other knowledge, but that it is most powerful to inculcate in the intelligence and reason of the individual those general principles of thought which education endeavours to instil as the most fitting to further civilisation in its aim of perfect living.
What are they? I answer that amongst them are—the connection of cause and effect, deductive and inductive reasoning, relations and comparisons, proportion, appreciation of harmony and contrast, comprehensiveness, consistency, exactness, memory, and also recollection, which George Romanes declares to be a higher power of intelligence than memory.

You have not forgotten that I put aside the connection of the art of painting with the æsthetic feelings and emotions. I did so because my case would be all the stronger if it could be proved without it, and because I wished you to distinguish the technical record of associated facts from the abstract charm and delight which can be expressed by means of it. I wished to make painting as common-place as any other subject necessary in your systems of education, although I wanted you to feel that it is not quite on the same level of intelligence as the three-card trick, or a painstaking effort in plate-spinning.

You may think it would have been advisable for me to have discussed the manner in which painting should be taught. This is not the subject of my paper. I chose rather to try and suggest what the practice of drawing and painting involves before discussing systems of teaching it. Again, it is the fear of overtaxing your time and patience that makes it impossible to do more.

Of course everybody can be brought to a high degree of perfection in the technique of painting. And of course there is no royal road to success. Is it not certain that the best method of conveying an impression to others is to follow the method by which Nature has conveyed it to us? That, stated briefly, is to put the right tone, the right colour, the right size, the right shape in the right place upon the canvas. Adhere to this, and it does not matter much about the instrument we do it with. A pencil or a brush, a broom or the broom-handle, let us take whichever we find most convenient to accomplish the mechanical end of accuracy. And remember! Will you let me repeat it once again? The mere handling of the instrument is a comparatively little thing to learn, indeed the hand may be almost left to take care of itself. It will very soon prove itself quite capable of registering whatever the brain may dictate; that which the fingers may
utter will be but idle nonsense if it has not first entered in at the brain. We must learn to see and understand the appearance of things.

If we have not learned to do this we have neglected talents entrusted to us. If we have somewhat learned to do it we have but done our duty to the gift of sense, yet we have the reward of a new medium of communication with our fellows. Even more, for we shall have found a means sensitive to express some part of that beauty, the contemplation of which awakens unspeakable emotions and indefinable idealities, vague sensations of a rarer spirituality, which is at once an encouragement and a consolation for the efforts of this life.