

DISCUSSION.

AN EXPERIMENTAL COURSE IN ESTHETICS.¹

I wish to give a brief sketch of a course in esthetics for which — it seems to me — there is a real demand. I have given this course repeatedly and am under the impression that the students who took it derived more benefit from it than they would have derived from a course following the old-fashioned lines, defining the 'beautiful' and the 'sublime' and informing the student on the historic development of esthetic theory from Plato and Aristotle up to the year 1907. I present this sketch of a course in order to call forth criticism and discussion.

By an experimental course I do not mean a technical course in which the student is taught how to perform experiments and take measurements, but a course in which theoretical knowledge is conveyed by the help of experimental demonstrations in class.

A student who specializes in philosophical studies wants, of course, information on the history of esthetic theory. Such information, however, can be obtained as well from reading books as from listening to a lecturer. The number of students who want such a course is small compared with the number who find themselves again and again puzzled by questions like the following:

Why does Mr. *X* enjoy this piece of sculpture which is to me little more than a piece of stone? Why does Mr. *Y* say that he does not care for that picture with which I decorated my study? Why are some people able to spend delightful hours in the galleries of a museum, while to me the most delightful moment during a visit to a gallery is the one when I discover that I am approaching the exit?

Answers to such questions cannot easily be found in books. The student who seeks these answers needs the guidance of an instructor. And the course which I wish to describe attempts to help the student to find them experimentally, to derive them from his own observations made in class.

It is plain that in a course of this kind one cannot require the student to have any knowledge of the history of art, or any familiarity

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with the technic of drawing, painting, modeling, or carving. The very students who do not possess such knowledge and have but little time to acquire it, are most likely to ask questions like the above and seek for answers. I do require, however, that the student shall previously have taken a year's course in general psychology covering the whole field, from sense perceptions to emotions, from the ordinary activities of daily life to the unusual actions of a temporarily or chronically abnormal human being. Otherwise the course might assume the features of a kindergarten course instead of those of a college course; and only thus can time enough be found to obtain experimentally, within a single semester, answers to the questions of practical esthetics, answers which are to be of permanent benefit to the student in his conduct of life.

Such words as 'beautiful, sublime, ugly' are scarcely ever used during the course; and their use is discouraged. The use of such words would unavoidably narrow down, from the start, the field of esthetic inquiry to the limited area covered by the meaning accidentally associated with them in the student's mind. To illustrate this, let me mention the case of a student who — at the end of the course in question — says that he has never applied and will never apply the word 'beautiful' to a statue in the nude, but that the course has made him comprehend why perfectly decent people will place such statues in a museum or use them to decorate their homes. Another student says that he can never call a Verestchagin war scene anything but disgusting, but that he has come to understand why such a painting may properly find its place in a public or private museum or library.

The most serious mistake which can be made in an experimental course of instruction in any science consists in overemphasizing those experimental methods and results which are predominant in the recent research literature of that science or which have been particularly investigated by the individual instructor giving the course. Much harm has been done to psychology in general by this mistake having been made by some men in charge of psychological courses. The result has been the still wide-spread belief of the public that an experimental course in psychology consists in discussing and performing all manner of experiments in order to test the validity of the Weber-Fechner law — a law which is of but little more concern to the psychologist than to the representative of many another science. I have tried to avoid this mistake, to have in mind the interest of the student rather than that of a few investigators who happen to be his contemporaries.

Instead of beginning the course with a definition of 'the beautiful,' or of 'the esthetic' or 'art,' I begin with a practical problem by showing the student two lantern slides, representing actual scenery, and asking him to answer the following question: If you found yourself momentarily free of all mental occupation and had nothing else to do in order to while away your time but to inspect either the one or the other of these pictures, which one would you select for this purpose? This is a question which every student immediately comprehends and feels entirely competent to answer. The pictures used for this purpose are not reproductions of works of art. I do not wish to give the student from the start the impression that the esthetic experience is restricted to the perception of artistic creations. The pictures are lantern slides from a collection intended to serve the purpose of instruction in geography, representing scenery from all parts of the globe, some by chance ranking rather high esthetically, some ranking exceedingly low. But this variety of degree is an advantage rather than a disadvantage. I have divided these slides into two groups, according as they contain water in the shape of ocean, lake, river, brook, or no water. The reason for this division will become clear later. Each group contains about twelve or fifteen slides.

I then show the class the pictures of one of the above groups in pairs, presenting each pair long enough for each member of the class to answer the question as to which he would select for looking at if that was his only possibility of whiling away his time. The number of votes of the class are then recorded in a list containing as many columns as there are pictures. Picture No. 1 is first presented together with No. 2, and the votes are recorded in the proper columns. No. 1 is then presented with No. 3, and so on until No. 1 has been shown together with all the other pictures of the group. Now No. 2 is shown together with No. 3, with No. 4, etc. This takes of course several hours. The votes recorded in each column are then added together. The sums thus obtained, of which the largest are many times multiples of the smallest, can be regarded as representing a measure of the relative esthetic value of the pictures for the group of human beings making up the class.

In order to enable the class to discuss the pictures, they must be given names. I do not tell the class the actual names, because these would inevitably influence the judgment, a fact which agrees with a statement recently made by Professor Lillien Martin who found that even knowledge of the artist's name influences the esthetic judgment concerning a painting. Being told that of two river views one rep-

resents the Rhine valley, the other an unknown region in Canada, the subject feels constrained to prefer the Rhine. I therefore ask the class to propose themselves suitable names by which to refer to the pictures.

While it is very important to obtain esthetic measurements valid for the class as a whole, the individual differences must not be obliterated. I therefore have each student — in particular those who cast their votes with the minority — write down in his note book a statement of the fact that he belongs to the majority or minority and also of the reasons — if he is conscious of any — why he would select this picture rather than the other.

Having thus collected material for discussion, it is our task to explain the relative values recorded by analyzing out of the pictures the esthetic factors influencing the judgment. For this analysis we need, of course, some guidance. What could guide us better than a brief description of the mental processes going on in an artist when he creates a work of art which is to exert esthetic influence over others? I therefore study with the class a description of these mental processes, and I use the description given by the distinguished German sculptor Hildebrand in his book *The Problem of Form in Painting and Sculpture*. Unfortunately, there is, as yet, no English version of the book, and the German edition is written in a style so difficult to read that the book cannot be given into the students' hands. I therefore present its contents in lectures. When I give the course again, an English edition of the book will be out.

I shall give here a brief outline of Hildebrand's book in order to make clear its contents and to show how these contents can help the student to analyze the esthetic experiences above referred to. There has been a good deal of discussion among writers on esthetics as to the question what Hildebrand's esthetic theory is and how it is related to other theories. As a matter of fact the book contains no esthetic theory at all. Hildebrand is the last person in the world who would claim to be a scientist, the promoter of a scientific theory, even in a science so closely related to art as esthetics. To comprehend his book, to use it to the best advantage, we must regard it, not as a theory of esthetics. but as the confessions of an artist with respect to his mode of thought when he is engaged in productive work. And this very fact that it is not a theory, but a confession of thought, makes the booklet extremely valuable in an experimental course on esthetics.

Hildebrand is chiefly a sculptor; but he asks us to regard him not merely as a sculptor; but as a painter and architect as well, when

reading his confessions. He tells us that when he creates a work of art he is conscious of one predominant aim, and this is: *to make the work of art clear and impressive as a visual percept*. All his varying thoughts during the process of artistic production are governed by this universal aim. The aim has three main aspects: (1) The perception must be a *visual* perception; (2) the perception must be *clear*; (3) the perception must be *impressive*.

That the purpose of painting, of sculpture, or of architecture is visual perception, would be a superfluous statement were it not that writers who are not — as Hildebrand is — productive in art, had actually tried to convince us otherwise. *E. g.*, A. Schmarsow tells us that 'the aim of the painter's art is the representation of the interrelations existing between the things of the world, *i. e.*, of the unity of nature,' which obviously is the aim of the scientist, but not at all of the artist.

Hildebrand tells us that he cannot create the clearest and most impressive percepts in works of art unless the creative imagination is visual too; and the psychologist will readily understand this, for it is no less true in psychology than elsewhere that like begets like. Not that other kinds of imagery are to be excluded: they are as important here as elsewhere in human activities. But they have to be translated into visual imagery before they influence the artist's productive hands. And when the artist tests his own work for its esthetic value, he tests it by the eye, as a visual percept, without any aid on the part of other sense organs. No matter whether his work is a painting or a statue or a building, its esthetic value is based exclusively on the characteristics which it presents as a visual percept.

What, then, are the requirements to be fulfilled in order to have a visual percept which is both clear and impressive? The artist tells us that, to have the highest possible degree of clearness, the external nervous stimulation must be as homogeneous as possible. The psychologist will be ready to understand this. It is but natural that, the more heterogeneous the external stimulations, the greater the possibilities for distraction of the attention, the less, therefore, the probability of that unity of mental activity which we refer to by the word clearness. Now, everybody knows that even in applying no other sense organs to a given situation than our eyes, the external stimulations are not exclusively those of retinal sensory elements, but also — as a rule — certain stimulations belonging to the sensory region usually referred to by the term kinesthetic. This is the case because, in ordinary vision, our eyes move, and some of these movements, those of convergence

and those of accommodation, resulting from the muscle fibers without and within the eyeball, furnish sensory stimulations of much importance for the interpretation of the retinal image. But these same kinesthetic stimulations, being heterogeneous with the purely visual impressions, are a possible and probable source of distraction to the artist's mind. He does not test, therefore, the esthetic value of his work by looking at it from close by, but by inspecting it from a sufficient distance, where convergence or accommodation no longer play their rôles in the process of perception. And, likewise, the imagination, which controls his hand, always consists in visual imagery representing things as seen from a distance. For the artist, then, all the esthetic values of visual perception are to be analyzed out of the percept of a distance picture, of a pure *visual projection*, as we may term it.

Another source of distraction to the artist's mind, interfering with the requirement of the highest possible degree of mental clearness, is the fact that in ordinary vision our consciousness does not directly correspond to our retinal image, but is manufactured out of two different images having their details more or less displaced relative to each other. Again the psychologist will readily understand the artist's feeling of a lack of unity, of a deficiency in the mental clearness to be desired, when his consciousness corresponds, not to the direct sensory stimulation, but to an indirectly stimulated nervous process, made up for the occasion according to nervous habits well suited to the practical demands in the struggle for life, but not adapted to the purpose of a playful activity of the mind. This lack of clearness is eliminated by the artist in the same manner as the one just mentioned, simply by making the visual projection, the distance picture, which is identical for both eyes, the exclusive material of both his productive and receptive mental activities.

Further conditions, however, have to be fulfilled in order to give the visual percept the highest possible degree of mental clearness. The artist requires that the act of forming a percept, a unitary group, out of the innumerable sensation elements presented be made as easy as possible so that no effort may be experienced, but the playful attitude of the mind be preserved. For this purpose the horizontal and vertical directions in the visual field must be clearly indicated by familiar objects such as a tree standing on level ground and throwing a shadow upon it. Other means may be used, of which the artist makes no direct mention, but which psychologists have begun to study in recent years, actual symmetry of form, or, more frequently, a quasi-

symmetry of attention values. Hildebrand, since he does not pretend to offer a scientific theory, makes no effort to obtain a complete list of the various factors which can be pressed into service. He is satisfied with emphasizing the mere necessity of clearness in the two dimensions of the visual field, by whatever means this clearness may be brought about.

More important yet than the manner in which the objects are arranged in two dimensions is their arrangement with respect to their ability to arouse in us — in spite of our being limited to the visual projection — an absolutely clear and effortless perception of depth relations. Here we have a large field of esthetic investigation in which practically nothing has been done thus far by psychologists. Hildebrand tells us that he obtains his end chiefly by two means, by arranging the various objects in a comparatively small number of successive planes, and by choosing the objects for representation in the various planes in such a manner that the observer cannot help reading off their depth values from the front of the picture into its depth.

It is but natural that the clearness, the so-called repose or unity, of the perception must be greatly enhanced by the objects not being scattered all over the three-dimensional space but being found in a small number of planes, meaning by 'planes,' of course, layers of a certain thickness. If they are arranged within these planes in such ways that each plane offers a perfectly clear two-dimensional percept, there is but one problem left, that of uniting these planes in one act of perception, in order to obtain a perfectly clear percept of the total space with all its contents.

For the purpose of uniting the planes Hildebrand's chief requirement is that the observer be made to read off the distance values of the planes in a serial order, beginning from the front. Again there is no difficulty in understanding this requirement on psychological grounds. Whenever our eyes in actual life sweep along a line in the direction of the third dimension, as when we look over our writing desk, or over the lawn in front of our house, we practically without exception fixate a near object first and farther and farther points of interest in succession until we have reached the most distant point visible. Having acquired a strong habit of this kind, it is plain that the ease of perception would suffer if, in inspecting a picture, the imaginary eye movement would proceed otherwise, *i. e.*, if any plane other than the front plane of the picture (in painting; and no less in sculpture or architecture) would attract our attention first, and the less distant plane or planes later. Here again Hildebrand does not

attempt to solve the psychological problem, what the conditions of visual sensation or perception are which favor and which are opposed to this direction of our reading off movement. He is satisfied with emphasizing the fact as being of the greatest importance in his own creative thought and with illustrating it by a few examples.

The third requirement is that of impressiveness. Clearness obtained by emptiness of the situation would have little, if any, esthetic value. The spatial contents presented to the eye must have a meaning, must represent life. The artist tells us that life does not invariably mean to him actual movement; it may mean merely possible movement. The spatial contents presented arouse in the artist feelings of activity or of character by which activity is governed. And these feelings can be strong, the impressiveness of the visual percept can be great only when the spatial contents consist of objects which possess typical spatial forms, which are types of activity or character, for example a sinewy hand, or a strong jaw, and when the spatial arrangement itself fulfills the requirements of clearness so that there is mental energy enough available to perceive the life of the spatial contents, subtracting the energy necessary to perceive the total space. Life must be represented in the picture, but the question what kind of activity, what kind of character this life consists in, is regarded by Hildebrand as a question which does not concern the artist as artist, which concerns only the individual as individual.

Having made the students acquainted with the artist's mode of thought as confessed by himself and just given in outline, and, indeed, *while* making them acquainted with these thoughts, I ask the students to analyze out some of the esthetic factors effective in our experiments by trying to apply the artist's mode of thought to the pictures which we arranged in a series according to their esthetic effectiveness. The students now easily separate the individual factor from factors which are of universal application. One of them is much interested in a picture because a group of human beings apparently resting after a day of labor are visible in the foreground and arouse a strong emotional response. Another one prefers a picture because it contains a hilly pasture reminding him of childhood days. Aside from such individually effective factors there are now discovered features which are of more universal application, which exert a determining influence on the esthetic judgment of all the members of the class. And it is at once admitted that the latter factors are those which should be studied here, by this class, for that we have our individual preferences can scarcely be regarded as a fact to be studied in a course on esthetics,

but, perhaps, in a course on individual psychology. It is also admitted that thoughts of human toilers, of a playground of our childhood days, of a Madonna and Child, so far as they are subjects of esthetic inquiry, are not exclusively based on *visual* perception, but may be conveyed by poetry or prose, and must therefore be studied in a further branch of esthetics, separate from the problems which have come thus far to constitute our center of interest.

Why, then, is a certain picture clearer and more impressive than another picture and receives thus a majority of the votes? Some of the instances illustrating the rules of two- and three-dimensional arrangement are noticed by the students directly, others by the help of an indirect method to be mentioned farther on. Such facts as real symmetry, or quasi-symmetry may be observed directly. The effect of the presence of water, referred to above, may also largely be grasped by direct inspection. Not that water in itself is particularly pleasing to look at. Not everyone has pleasant associations derived from swimming or boating or other water sports or from the pleasant experience of washing down his food. But water nearly always conveys a clear idea of the horizontal plane and thus aids in the perception of the spatial relations of other things.

The indirect method referred to is particularly useful in the study of the spatial structure in the direction of the third dimension, although it is entirely applicable and useful also for the study of two-dimensional arrangement. The method consists in cutting off from above or below, from the right or the left, larger or smaller pieces of the picture and studying the new picture with respect to the same question with which we started the experiments. This cutting off is easily done with lantern slides by means of strips of card board. We observe that frequently the resulting picture seems preferable to the original. And we have little difficulty in observing that this is the case because of the removal of an object which does not obey the rules of arrangement in planes and of reading off the successive planes from the front to the back. We observe that a picture which was given a rather low rank in our experiments can thus often be raised to an equal rank with pictures which previously appeared superior. Nevertheless, the life and character of the piece of nature represented may have remained practically the same as before. We can use these observations as illustrating the fact that in esthetics—if not in general, at least in esthetics as applied to art—the formal principles are of more fundamental importance than those concerning content, that the mere fact that a piece of nature, because of some accidentally acquired associations, pleases

someone is no excuse for representing it in art, unless its form makes it worthy to be represented. I do not mean, of course, that without this method of cutting off pieces of the picture we could not get along. Indeed, to some pictures it cannot be successfully applied. We use then the direct method for the study of the esthetic effectiveness of the architectonic of the picture. And here we observe another, indeed the chief effect of the presence of water in a landscape. A water surface easily breaks up the infinite number of details into readily perceptible groups. And if these groups happen to arrange themselves into larger groups, into a few successive planes, and if nothing counteracts, if everything aids our tendency to read off these planes from the front to the back, the esthetic effect is great.

It is impossible to enumerate here all the detail questions which can be asked and discussed by students and instructor. I wish to mention only one kind of such questions, those with respect to the means by which our tendency to read off the spatial values from the front to the back can be aided, and with respect to the opposite effect which must be avoided. Hildebrand in his book gives a few instances answering this question. But many more may be found if we study pictures as my students do this in class. *E. g.*, if one of the objects of the first plane is conspicuous by mere size, or color, or light contrast, but otherwise uninteresting, it will serve to attract our attention at once to the first plane without unduly keeping it there. Facts like the one just stated appear cut and dried when stated in abstract form, but readily become a valuable addition to the student's store of knowledge if he derives them himself from immediate observation, applying the scientific laws which he has previously acquired in a course in general psychology.

Studying what I called the impressiveness of a visual percept by analyzing landscapes, the student easily discovers that the impressiveness of a visual percept is something different from what the ordinary man happens to call 'beauty.' The life and character of a landscape consist in the amount of spatial elements arranged for ease of perception. We may apply here the traditional esthetic term of unity in variety. The larger the number of spatial elements, in other words: the greater the spatial richness of the picture, the more intense is its life, the more pronounced its character. Whether the landscape stretches out for many miles or only a few yards, however, is irrelevant, for the absolute size of the spatial elements is a matter of arbitrary choice.

Turning now to sculpture, first to relief, then to sculpture in the

round, the student readily comprehends that the esthetic laws of visual perception are essentially the same here as in drawing and painting. He observes that all his previous observations can be repeated here, and he convinces himself of the absurdity of attributing to sculpture *objective* beauty, since sculpture is a thing to be *seen*, and not to be seen while we are wandering around it, but to be seen from a single point of view, that point of view from which the artist conceived his visual image of the picture. I need not describe in detail how I proceed in class with regard to these questions since I follow rather closely the lines of discussion chosen by Hildebrand in his book.

Thus far, no particular mention has been made in this course of the law of association upon which so much stress has been laid by Fechner. I now give my students some lectures on Fechner's principles of esthetics and let the students discuss them. It is found then that these principles are of much less esthetic importance than the formal laws of visual perception previously studied. Much esthetic effectiveness that seems to be due to association is really due to its influence on form perception. For example, what Fechner says about the associations based on color, is doubtless true, but practically rather insignificant. Saying this, I do not wish to give the impression of believing in color-harmony or in any other speculative principle of color esthetics. I do not believe that colors can be said to harmonize at all, and I give my students here the results of the psychological investigations of recent years, which clearly show that color-harmony is a meaningless term. But it does not follow that all the esthetic effectiveness of color must then be based on Fechner's principle of association. On the contrary, the great importance of color is to be found in its unifying and separating effects by means of which it aids us immensely in perceiving the spatial contents of a spatial whole.

There is no need of belittling the great accomplishment of Fechner in esthetics. His work is invaluable as a welcome reaction from purely speculative esthetics which was derived from metaphysical principles instead of being based on a study of the laws of the mind in esthetic perception. But it would be a regrettable illusion if psychologists thought that beyond the problems stated by Fechner none were left which offered themselves for an experimental investigation. I am inclined to believe that the problems of form (in all three dimensions), which are barely hinted at by Fechner, are those which promise the most satisfactory results to the experimental investigator.

The student is now well prepared to discuss critically the esthetic value of the discoveries made by artists of recent times, particularly

those of the impressionistic school. I give the class a brief outline of the theories in which the artistic tendencies of this school are usually described; and by the help of a few typical examples, I let them conclude themselves to what extent these new tendencies can really be regarded as new discoveries, to what extent merely as further elaborations of principles well known and employed by much earlier artists. Especially the color theories as applied to their technic by the impressionists are discussed here by the class. And this takes but little time if the members of the class are familiar with the physiological theories of color vision.

I finally give my students a survey of the general esthetic theories as proposed by recent writers. It is easy to show that—in spite of all divergence—they agree in regarding the esthetic experience essentially as a playful attitude towards a situation. The more adapted the situation is to be responded to in play, the higher its esthetic value. Such general theories can be discussed with a class more advantageously after the esthetic experience itself, in many variations, has become a perfectly familiar phenomenon to the student, than they can be taught while the student still has to guess what experience the instructor means when talking of the beautiful or the esthetic. If we apply the modern esthetic theories to the arts of painting, sculpture, and architecture, we can summarize in a few words by saying: An esthetic experience is a mental process of playing with a visual percept. And to make this clear to the student I have regarded as the aim of this course.¹

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