CHAPTER II.

ANALYSIS AND CLASSIFICATION OF FEELINGS.

PART I. THE SENSES AND SENSATIONS.

Purumque relinquit
Ætherium sensum atque aurai simpliciis ignem.
Virgil.

§ 8. 1. The task immediately before us is no less than to arrange the mass of feelings, which constitute the material element in the subjective aspect of the world of man and of nature, according to their natural kinds and relations to each other. The instruments with which this task is to be attempted are, first, those distinctions which have been already established as applicable to such objects, namely, the distinction between the formal and material elements in consciousness, that between the two great modes of consciousness, direct and reflective, and that between the different degrees of development or complexity in different stages of experience, namely, presentation, representation, and imaginative representation, which apply to both modes of direct and
reflective consciousness; and secondly, such general distinctions in the material element, the feelings themselves, as are at once the most obvious and the most comprehensive, such as, first, the distinctions between the feelings themselves, as sight and sound, taste and smell, love and hatred, and, secondly, such as the distinction between feelings which have a special and definite character of their own, which they never lose, and feelings which, while they never exist separately, will combine with or enter into any others and, on so doing, take upon them a colour from those with which they combine; to which latter class belong pleasure and pain, and the sense of effort with its derivatives. The applicability however of all these distinctions can only be shown by their proving themselves capable, in the event, of serving to arrange the phenomena in a complete and satisfactory manner; for the method is not pure deduction, but examination of an already existing complex object.

2. The mass of feelings is thus traversed by a number of distinctions which are the first outlines of its classification and analysis; but these distinctions cross each other, so that what is entirely included in one category of one of the distinctions is either only partly included, or included along with something else, in a similar category of some other distinction. For instance, the distinction of presentation and representation serves to distinguish sensation from emotion, but the distinction between general and special feelings, that is, between pleasure, pain, and effort, on one side, and such feelings as hunger, warmth, love, anger, on the other, applies equally to both sensations and emotions; that is,
there is effort, pain, and pleasure, in sensations as well as in emotions, without destroying their respective sensational and emotional character. There will arise, therefore, side by side with the distinction into sensation and emotion, a further distinction into sensations which either contain or exclude pleasure, pain, or effort, and emotions which either contain or exclude the same; or, in other words, there will be a threefold distinction, into sensation, emotion, and those states, which whether sensational or emotional include pleasure, pain, or effort, the third category excluding states which are emotion or sensation merely, and letting them fall back into one or other of the two former categories.

3. But, in attempting the application of these distinctions, which of them is to be employed first and laid at the foundation, as it were, of the others? It can be no other than the distinction between presentation and representation; for, in the first place, this distinction gives at once the ground of the popular and current and most fundamental distinction into sensation and emotion, or, as it is usually called, physical and moral, bodily and mental, outer and inner, feeling. All those feelings which do not require any representation as a groundwork or framework in which to arise, or upon which to be superinduced, are coincident with sensations; all those which do require a representation or memory of past sensations in order to arise are emotions. In laying this distinction, then, at the foundation of our analysis we shall be following the beaten track, and received method of regarding the question, which in this case will be found to have the warrant of reason. In the next place, there is no other of the
distinctions mentioned which is directly and at first applicable; the distinction of form and matter applies to every state of consciousness alike, and consequently it could only be the greater or less degree of either of these elements in any given case which could cause it to be classed under one or the other category; but such a greater or less degree, or predominance, of either element can only be judged of when the states themselves have been already ranged in some classification, and distinguished although roughly from each other. Again, the distinction between reflective and direct modes of consciousness is in itself subordinate to the distinction between presentation and representation, since reflection is one mode of the latter; this distinction, then, will be found to be the basis of a classification of the feelings falling under representation, that is, of the emotions, but not of the feelings as a whole. If however we turn to the other class of distinctions, distinctions in the matter of feeling itself, it will be seen that the differences between special feelings are indeed immediately discernible, but, from their being the last specialities, ἡ ἕκαστή ἔννοια, of experience, are rather the matter to be classed than the ground of classification; since it is the very difficulty of distinguishing these specialities of feeling which causes us to undertake the task of analysis and classification. As to the remaining distinction, between general or pervading feelings, pleasure, pain, and effort, and special feelings pervaded by them, it is true that this distinction is broad and sound and obvious; but it neither leads us to anything further than itself, nor becomes the ground of further distinctions to be developed out of it. As the distinction between form
and matter could make no beginning of a classification, so this can make no progress towards one, but remains in itself as an observed general fact. See on pleasure and pain in this respect Prof. Bain, The Emotions and the Will, Chap. ii. 2d ed. The distinction of presentation and representation on the other hand produces out of itself the further distinction of direct and reflective representation, which exhausts the whole field of consciousness.

§ 9. 1. We obtain thus for our first step towards analysis and classification of feelings the following scheme:

- Presentations or Sensations.
- Representations or Emotions
  - Direct.
  - Reflective.

The first thing then to be done is to examine and arrange the sensations, or feelings which consist of presentative perceptions only, at the same time showing, by the application of the distinction between general or pervading and special or pervaded feelings, how they are connected with and pass over into representations and emotions. In presentative perception there are always the two elements of form and matter; and this distinction will now serve us to carry on the analysis, if we attend to the modes of combination of the two kinds of form, time and space, with matter, and to the preponderance of one or of the other element. The lowest, as they are called, and simplest states of consciousness are those in which time alone and not space is found, and in which also there is no other distinction between the portions of time but simple duration. What states are those in which these conditions are alone observable? They are those feelings which are called
organic, or systemic to adopt Mr. Lewes' term; and
which are metaphysically distinguished only by a
special difference in their matter, or in kind, and
physiologically by the different organs or parts of
the body or nervous system to which they belong.
Accordingly, this first great group of systemic sen-
sations may be distinguished into the following sub-
groups; see Prof. Bain's classification in The Senses
and the Intellect, Book i. Chap. ii., to which I am
much indebted:

1. Sensations of the digestive organs; among
   others, relish, disgust, nausea, hunger,
   thirst, satiety.

2. Sensations of the nutritive and circulatory
   organs; among others, activity, inanition,
   impeded circulation, active circulation,
   parchedness, moisture.

3. Sensations of the respiratory organs; among
   others, active respiration, impeded respira-
   tion, oppression or stifling.

4. Sensations of the reproductive organs.

5. Sensations of the muscles; among others,
   of degree and different kinds of their
   exertion, e.g. in lifting weights, walking
   and moving limbs.

6. Sensations of the nerves themselves; among
   others, dejection or depression, tedium
   vitae, energetic action of nerves, health,
   liveliness, dizziness, fainting.

7. Sensus communis; among others, feeling
   of pressure, sharp pressure or pushing,
   pricking, tickling, of a blow, of cutting,
   lesion, ache dull or acute, heat and cold.
Two sensations here enumerated under sensus communis, namely, pressure and temperature, or heat and cold, are sometimes counted as belonging to the special sense of touch, on the ground that they have the same organ, nerves with their peripheral ends distributed to the surface of the external skin, and that accordingly superficial extension in space is always involved in the sensation. Heat and cold, it is said, are not felt as such, but only as pain, when applied to the course of a nerve; only when applied to its extremity are they felt as heat and cold, and then they contain also some perception of superficial extension. The same is said of those low degrees of pressure which do not call forth muscular exertion. (Prof. Funke's Lehrbuch der Physiologie, § 180. 4th ed.) And both of them combine immediately, like other sensations of touch, with a Vorstellung, or perception of an external object, or, as I should say, with the perception of a "remote" object. There are however distinct sensations when pressure, heat, or cold, are felt internally, and these distinct sensations will perhaps be best classed under sensus communis. Touch is involved when they are applied to the nerve extremities, and, in the case of pressure, muscular sensation seems also inseparable. All we can do here is to distinguish inseparable elements in a complex sensation. But heat and cold, when applied to the nerve extremities, are so different in quality or kind of sensation from the other sensations of touch, that we must at any rate assign them a separate and intermediate place between that and the sensus communis. They are of the same sensational or material character as sensations of ache or lesion, cutting or pricking, but at the same time have super-
ficial extension in them, owing to their application at the extremities of the nerve in skin surface. Sensus communis, then, I conceive as a group of distinct sensations which have no peculiar group of nerves appropriated to them. The sensations are distinct, but not their organs.

2. These seven groups, or eight if we treat heat and cold apart, may be also distinguished among themselves by reference to their continuance or intermittence. The second, third, and sixth group are continuous; there is always, except in sleep, some state of feeling present to us, belonging to each of these groups, though it may be a very dim feeling. The other groups are intermittent; it is only when the organs are in certain states that the sensations belonging to these groups arise. The seventh group is potentially continuous, that is, we may have the feelings belonging to it at any moment, if the appropriate stimulus should occur, while the general and distributed character of the organ, being spread over the whole body, prevents any one stimulus from being specially appropriated to produce the feelings. This distinction is not unimportant, since it is the intermittent and special character of the first and fourth groups which, together with the pleasurable character of some of their sensations, enables them to become the foundation of what are afterwards called appetites.

3. But in all these sensations alike there is pleasure and pain, a pleasure and a pain which take their colour from the sensations in which they arise. There may be also in all of them the sense of effort, which arises not indeed at all times but only when there is a certain degree of pleasure or of pain. Whenever
there is pain of sensation, there is also effort, named afterwards an effort to decrease the pain; and whenever there is pleasure, there may be in addition an effort, named afterwards an effort to increase the pleasure; that is, named by what it has been perceived to tend towards. For instance, in hunger there is pain and a craving for it to be diminished; this stimulates to reckless action, when it is intense, because it fills all the consciousness and prevents other feelings from influencing us; hence the motive power of hunger, and the ferocity which attends it in its extremes. When food is given and begun to be tasted, the pleasure excites craving for it to be increased; there is then a double motive force at work, the craving to escape the pain, and the craving to increase the pleasure. This explains the increase of ravenous ferocity of hungry animals at the moment when food has just been smelt or tasted by them. In the appetite for sleep again it is the same, the craving for the increase of the pleasure of indulging drowsiness is combined with the craving for diminishing the pain of weariness. Pleasure, pain, and effort, then, are common or general states of feeling superinduced upon or arising in each of these sensations.

4. It has been hitherto supposed that these sensations are sensations alone; they have been regarded (except in the two foregoing illustrations) as not combined with the knowledge either of the organs in which they arise, or of the objects which are their appropriate stimulus, adapted to arouse or to satisfy them. But now suppose that the person feeling these sensations combines with them such a knowledge; which he does when he sees or represents to
himself the body or special parts or organs of the body to which they belong, and when he sees or represents to himself the objects appropriate to satisfy the sense of effort arising in them. In the case of the intermittent groups of sensations, in those, for instance, of the digestive system, he represents to himself the object food as such a stimulus; the definiteness of the represented object, an object represented as desirable, makes what was before mere effort become volition; he has the desire of food. Food is represented as pleasant; hence all volition is emotional in its nature, as depending on representation. Mere effort is sensational only, but effort for a purpose is emotional; though there may also be emotional effort which is not volition, or effort for a purpose. The volition to satisfy any systemic sensation is properly called appetite, although the term appetite is commonly restricted to the sensations of the digestive and reproductive systems. And it will be seen afterwards that what appetite is to these sensations, where these are its substratum or framework, passion is to emotions, having emotions for its framework; appetite is the desire of sensation, passion the desire of emotion. Desire, which is a common feature or element in sensations, is also in another shape, as passion, a common feature or element in emotions. It is common to both the great groups of feeling, and makes a link between them.

5. This common feature, however, does not transform the one into the other; sensation with its desire still remains sensation, and emotion with its desire still remains emotion. Nevertheless sensation is taken up and included in emotion, and in this way: the sensations with their organs, and with the objects which
satisfy them, are represented as images, are thought of as satisfied, or capable of satisfaction, together with the means and modes of their satisfaction; and in these representations there arise feelings which are not sensations but emotions. Whenever this takes place, the representation of sensation does not become emotion of all kinds indifferently, but there are only four kinds of emotion which it can become, namely, grief, joy, aversion, fondness; grief and joy when the sensation is represented as arising in the body itself without respect of the object causing it, aversion and fondness when the sensation is referred to such an external object, when we are said to feel aversion or fondness for that object. The sensations, on receiving citizenship among the emotions, are drafted into four tribes only, grief, joy, aversion, fondness; becoming there, as representations, the groundwork or framework in which emotional elements of feeling, called by these names, arise, each coloured by the particular kind of sensation which is included in its representational framework.

6. It is by no means easy to distinguish what is the feeling which is due to the bodily organ of sense and properly to be called sensation, and what is the feeling due to the representation or redintegration and properly to be called emotion, even when the objects are distinctly represented. But the task becomes harder still, when the sensations are not distinctly represented as visible objects and so included in emotion, but combine with the otherwise emotional train of thought, as sensations or presentations dimly felt. For instance, healthy or agreeable states of sensation combine with the otherwise emotional train of thought and feeling, and render it cheerful;
morbid or disagreeable states of sensation render it gloomy. How much of this gloom or cheerfulness is to be attributed in each case to the sensation; how much to the train of thought and feeling? Each factor moreover stands in the relation of cause or of effect to the other, and tends to produce the other even when it did not previously exist. This is the phenomenon familiarly known by the name of the influence of the mind on the body and of the body on the mind. I should be inclined to appropriate the terms energy and tedium vitae to the healthy and morbid states of sensation, vivacity and ennui to the corresponding states of the emotional train of thought. The remarks here made on the carrying up of the systemic sensations into emotion apply also, in the main, to the other sensations now about to be examined.

§ 10. 1. The remaining sensations form one great group, as the systemic sensations did, the sensations of the special senses. There are five sub-groups, the special senses, smell, taste, touch, hearing, sight. The rank of each as a special sense, in contradistinction to a group of sensations, is given by its containing sensations different in matter or specific kind of feeling from each other, the different odours, the different tastes, for instance, yet all belonging to the same general kind; whereas this common generic bond was absent in the several groups of systemic sensation.

2. But the two lowest of the special senses, smell and taste, agree with the groups of systemic sensations and differ from touch and sight in containing only the formal element of time, and differ from hearing in containing time only in its simplest mode of duration. The discrimination which is possible between their specifically different sensations, the
different odours and tastes, is due to the matter and not to the form of the sensations. The different qualities of these sensations can be compared and contrasted with each other, even though they do not involve any difference in their formal element. This applies also to the systemic sensations, but the systemic sensations of each group, when compared with each other, do not belong to one genus as those of smell and taste do, the different odours and sapours. The pain involved in these two senses is less than in the systemic groups, and the objects which produce odours and tastes are very much in our power, to apply or not to apply as we like. Hence these senses are very educable, and their sensations are arranged in a sort of scale of degree and kind of pleasure, as refined or unrefined, subtil or coarse; and a very acute power of discrimination between them can be attained. But the different tastes and odours are not opposite or contrary to each other, only different; they are opposite or contrary only by a figure of speech, since there is no difference in the formal element; nor do they even apparently run in pairs; for instance, sweetness is opposed sometimes to sourness, sometimes to bitterness. The common genus to which they belong does not stand between them, so as to make a common point of reference to which they are differently related. Except in the characteristics of belonging to one distinct genus, and of educability, the sensations of these two special senses, taste and smell, differ in nothing from the systemic sensations. In all alike there can be distinguished only these modes of sensation, quality, intensity, pleasure and pain. The difference between them lies in the greater discriminativeness and organisation in
quality of the sensations of taste and smell. The pleasure and pain also which is involved in the systemic sensations and in odours and tastes is pleasure and pain of the same mode; for it will be seen shortly that a distinction in the mode of pleasure and pain must be drawn, when we come to speak of sensations where the formal element is involved in greater complexity. By anticipation then it may be said, that the pleasure and pain of all the foregoing sensations may be called pleasure and pain of enjoyment, as distinguished from pleasure and pain of admiration; a distinction drawn by Kant, in the Kritik der Urtheilskraft, § 13, 14. The two lowest of the special senses, smell and taste, may accordingly be classed apart, making a transition or intermediate group between the systemic sensations and the remaining three special senses. And the same remarks will apply to them as to the systemic sensations, with reference to their combination with emotions, namely, that it is by their being represented with their pleasure and pain, so as to form the framework of an emotion.

3. The lowest of the three remaining special senses is touch. In it a new formal element is contained, the superficial extension of space; the matter of touch is always the same, the feeling of hardness, resistance, or contact, which cannot be described but must be felt, and has no single name but that of the sense itself—touch. The object of touch consists of these two elements, this sensation and superficial extension; these two elements are however variously combined, and their various combinations are the different specific qualities which we apprehend by touch, and which stand to it in the same relation as
odours to smell and sapours to taste. These perceptions or qualities are hardness and softness, roughness and smoothness, wetness and dryness. It will be seen that they run in pairs of opposites; but the case is the same with them as with the qualities of smell and taste, namely, the opposition is the work of a supervening comparison; there is nothing in the perception itself to which the two opposed perceptions are referred. Yet they differ from the sensations of smell and taste in this, that the opposition between each pair is a real opposition, and not one merely figuratively so named, as soon as it is perceived; and it is so because the formal element in each sensation affords a measure or standard to which to refer each sensation of the pair. In hardness, for instance, we have the same matter, the feeling of touch, in one form; in softness, the same matter in another form; the difference in the form, the degrees of the movement, or distance, in space of the particles of matter or sensation, can be measured and compared in the two cases. So it is with roughness and smoothness; roughness is change, or repeated cessation and renewal of dissimilar sensations of touch, smoothness the continuous perception of similar sensations. So also with wetness and dryness; wetness is the covering of a surface with particles of matter, or touch sensation, which cohere very loosely, dryness with particles which cohere with stability; wetness and dryness are the extremes of softness and hardness.

4. As to the inseparability of the form of superficial extension from touch, as an element of its perceptions, it may be remarked that even what we popularly call a point, as the point of a needle, has
superficial extension; nor is this only a property given to touch by a supervening reflection, for it can never be taken from it in thought; and if a mathematical point be thought of, this is no tangible thing but a logical abstraction. The least tangible object, then, has superficial extension, and it is no valid objection to urge that we are unable by touch alone to distinguish whether a point or a surface of the skin is touched, or how large a surface, or in what position or direction it is touched; for this only affects the interpretative or discriminative acuteness of the sense of touch, a point touched and a surface touched differing from each other in degree only, and a point being nothing but an extremely small surface.

5. The sense of touch adds nothing to the differences of mode already remarked in the material element of perception; it has quality, intensity, pleasure and pain; but the qualities, roughness, smoothness &c. are such as to be distinguished from each other, not by a difference of quality in their material element, as in all the foregoing senses, but by a difference in the relation of their formal to their material element, and to the different degrees of intensity in the latter. Space comes forward first in touch, and then only in two of its dimensions, length and breadth, or superficial extension. This, however, causes or enables touch to combine with another sense, sight, which is always in the same way bound up with the same two dimensions of space. The difference of the matter of these two senses and the community of their form, space, are what enables them to combine into a single perception or a single object. This object, namely, superficial extension with two kinds
of qualities, tangible and visible, then by a further process, a process of representation and reasoning, completes itself as a solid, or develops out of itself the third dimension of space. For superficial extension is at first incomplete, that is, it is not originally perceived as distinct from and opposed to depth, which is the way in which we now think of it, after that the perception of depth has arisen to contrast it with; but it must be conceived, at this first stage, as indifferent to whether depth will be added to it or not; a conception which we may perhaps realise by such an image as that of the flat surface of a great water-lily leaf, the Victoria Regia for instance, which from above appears flat, but, when the edge is lifted up, and the under surface seen, exhibits a deep furry network of ribs by which it supports itself and penetrates and grasps the underlying surface of the water. An attempt has been made in "Time and Space" § 18 to exhibit the mode in which this completion of space in three dimensions takes place. The criterion of completion is not the notion of space in three dimensions itself, applied by us to the phenomena out of our present after-developed knowledge; but the criterion consists solely in the fact that the third dimension of space harmonises completely with what was expectant, as it were, in the superficial extension, while it requires no further completion itself, expects nothing further, but looks back, as it were, to what has gone before, contains an answer but no further question.

6. The sensations of temperature, heat and cold, when external to the body, must be considered as a special kind of sense, akin to touch in having as its organ the nerves distributed to the surface of the
skin, and in being produced only by stimuli applied to that surface, so that superficial extension is perceived in all sensations of heat and cold just as it is in touch, but having a material element very different from the sensations of touch and closely allied to sensations of the sensus communis, such as lesion, cutting, aching, pricking, and to those sensations of taste which are from this circumstance called hot tastes, as of pepper and ginger. It is probable that the stimuli producing the sensations of heat and cold must produce some molecular change in the skin surrounding the nerve extremities which they affect, in a way similar to the stimuli of taste and smell; so that the sensations of heat and cold might not unaptly be called the chemical mode of touch. Although in this respect their place in the scala sensuum would be between the senses of taste and touch, and they might be considered as a sixth special sense, yet this rank must be denied them if we consider their poverty in sensational qualities, and consequent defect of educability. For which reason I continue to class them among systemic sensations.

§ 11. i. In the remaining two senses, hearing and sight, a much higher and more complex field of sensation is entered; in both of these an entirely new mode of sensation is added to those already remarked, for not only are they special senses, and not only are their opposite qualities more distinctly opposed to each other than was the case in touch, but they both contain, besides the modes of quality, intensity, pleasure and pain, a new mode, which in hearing is the mode of pitch. In all sound, which is the matter of hearing, three things are to be distinguished, for which see the valuable work of Prof. Helmholtz, Die
Lehre von den Ton-empfindungen, a work which has thrown an entirely new light upon these questions. These three things are, 1st, the intensity, or loudness of the sound, which depends upon the amplitude of the vibrations in the air conveying it; 2d, the pitch, low or acute, bass or treble, which depends upon the rapidity, or, what is the same thing, the number or the length of the vibrations in a given time; and 3d, the quality, or colour, or character, of the sound, as in different instruments, strings or pipes, and in different tones of voice; which was formerly referred to the shape of the undulations in the air conveying the sound, but has now been referred by Prof. Helmholtz to the different series of subsequent partial vibrations which combine with the single sound from which they proceed. Pitch therefore is the only new mode of sensation introduced in hearing, and the quality or colour of sound depends upon pitch in its last analysis. And the three modes of sound, intensity, pitch, and colour, are all modes of the matter of hearing, or of the sound itself as heard.

2. The formal element in hearing is time alone, and not space; although, as will be seen farther on, we often interpret sound and make its relations clearer to ourselves by applying to them the figure of space, as being a form which is more composite, and therefore more fit to serve as a logical framework, than time alone. Every sound has a certain duration, and this duration is its formal element; the quality, pitch, and intensity, which are modes of its material element, are noticed within this duration, that is, in the sound itself while it lasts. This may be called the metaphysical analysis of sound, being
the analysis of it as heard, and not an analysis of its causes, of the vibrations or undulations of the air conveyed to the auditory nerve, which produce the varieties of its intensity, pitch, and quality. We hear the pitch, the intensity, the quality, but are not aware of the amplitude, number, or composition of the vibrations which produce these effects. The analysis of these is the work of physiology and acoustics; it goes deeper than metaphysical analysis and justifies it; goes deeper because the vibrations which produce each pitch can be analysed into separate vibrations, while the pitch itself cannot be analysed into separately heard moments of sound; and justifies it because it can be shown that the measurement of pitch, and consequently of quality, by the ear, in hearing together two pitches or two qualities, corresponds to the measurement of the vibrations and their composition, which produce the several pitches and qualities heard. Every sound heard, which has of course a certain duration, its metaphysical formal element, may be conceived as if it were made up of a series of shorter sounds, each depending on vibrations of particles of air, in waves conveyed to the auditory nerve; and since these vibrations can be analysed as to their rapidity and their combination with each other, so also we may conceive that the series of shorter sounds, composing the sound heard, could be analysed were they audible separately; and, notwithstanding that they cannot be heard separately, that they yet determine and compose the pitch and the quality of the composite heard sound, and are the justification of the measurement of it by the ear, in comparison with other sounds heard. In other words, we may conceive
that the formal element of a heard sound, its duration, has divisions of time within it, which, though not empirically perceived, are as real as the separately inaudible sounds which they contain, and are the ground of the measurement and comparison, as to pitch and quality, to which every actually heard sound is subject. The differences between pitches and qualities of sounds may therefore be conceived as differences depending upon variations in the formal element no less than in the material element of sound; and thus we can more easily understand the meaning of saying that the pleasure or the pain, which belongs to the composition of various sounds of different pitch and quality, is pleasure or pain of admiration, depending upon measurement, no less than of enjoyment. The metaphysical matter of hearing, the sound itself; has been already cast in the mould of form at the moment when it comes into actual and empirical existence as a heard sound of a certain pitch; and two of the three modes of this matter, the pitch and the quality, depend upon the relations of the form to the matter, in portions of it which are too short to be heard separately, but lie below consciousness.

3. In the senses hitherto examined, the intensities and the qualities of sensation had only pleasures and pains of enjoyment; but in hearing, the intensities remain as before, while the qualities become dependent on the new mode of sensation, pitch, now introduced for the first time. In sound everything depends on the formal element and its divisions, whether these are actually perceived or only inferred from the physical analysis of the air vibrations. Accordingly sounds are distinguishable first into two great classes,
musical and unmusical, notes and noises. A sound produced by unequal and irregular vibrations is a noise, one produced by equal and regular vibrations is a note. Both alike contain the three material distinctions, intensity, pitch, and quality; but only the musical sounds can be measured and judged by the ear, so as to be the foundation or material of harmony. The qualities in unmusical sounds are distinguished only roughly as rolling, grinding, grating, hissing, growling sounds, and so on; in musical sounds they are the sounds of different instruments, violin or clarionet, for instance, and the various tones of voice which are heard in speaking or singing. In speaking the consonants are noises, the vowel sounds are compound notes, each having its specific quality, colour, or tone of voice.

4. It is only regular or musical sounds which can be analysed to any purpose. And in these, first in respect to their intensity. The ear judges pretty accurately between different degrees of intensity or loudness, just as the muscular sense distinguishes different weights or degrees of resistance to pressure. Yet in intensity of sound there is no previous distribution or articulation of the formal element, but the force with which the vibration strikes the nerve determines the loudness of the sound. Consequently the perception of intensity does not include a comparison, nor can we say that one sound is doubly or half as loud as another. Intensity is purely material, and the pleasure or pain arising in it is pleasure or pain of enjoyment, not of admiration. It is one of the two sources of what is called expression in musical playing or singing; the other source being the length of time a note is dwelt upon, or the length of time
interposed between it and those which precede and follow it. In speaking there is another source of expression, namely, the differences of colour or tone of voice used to pronounce different words or different sentences. But this in music or singing is part of the melody or harmony, the music itself, and does not belong to the expression given by the performer. There is nothing in intensity alone which distinguishes sound from the sensations of other senses.

5. It is not so with the second mode of sound, its pitch. The pitch of a sound depends upon the rapidity, the number in a given time, of its vibrations; and when these occur in equal periods the result is a musical sound of a certain pitch. Prof. Helmholtz has made it probable, in Abtheilung 1, Abschnitt 6, of the work already quoted, that the nervous machinery of the labyrinth of the ear is so formed that each fibre is, as it were, tuned to perceive certain separate periods of vibration, and thus with different fibres to perceive different pitches of sound. This view would very readily explain how it is that pitch is the first thing heard, not distinguishable by the ear into moments or beats of sound, and yet that two pitches heard together are compared and measured by the ear, as if they were each divided by the ear into beats. Every differently periodic vibration is perceived by its appropriated nerve fibre, and by it alone; the whole series of pulses in the vibration is heard as one pitch. Each pitch being thus separately heard can be compared to the others similarly heard, while the measurement of the pulses in the vibrations proves the accuracy of the ear in its judgment of the pitches. But if all the nerve
fibres of the ear were employed in hearing each separate series of vibrations, then, in order to distinguish between two or more series conveyed to the ear together, it would be requisite to imagine that the nervous organ of the ear should keep separate the different series of uniform pulses, yet without hearing separately the separate pulses of each series. This difficulty is removed by supposing an appropriation of separate nerve fibres to separate series of pulses, that is, to separate pitches; which is in fact to refer the work of distinguishing pitches to the structure instead of to the function of the organ. The phenomenon of distinguishing differently pitched sounds is as follows: when two or more sounds are heard together, the ear has distinct perceptions varying distinctly according as their respective periods of vibration vary. If these are the same, no difference of pitch is heard; if one is double of the other, we hear the octave; if one is four times the other, the second octave; when they are as three to two, the fifth; as four to three, the fourth; and so on. These distinct perceptions of the relation between sounds of different pitch, perceptions which are invariable whatever may be the intensity of the sounds, or whatever their quality, show that there is some definite relation between the form and the matter of every single sound, though it is a relation which is not perceived in the perception of the sound itself, the duration of it being unanalysed in perception; but still a relation which makes it capable of definite comparison with other single sounds in point of pitch. The accurate perception of pitch is the first requisite for what is called an ear for music. According as the periods of vibration of two notes more
or less accurately coincide, the two notes together are a concord or a discord. Two discordant notes have comparatively few vibrations which coincide, or the beats of which occur at the same instant; concordant notes are those the beats of which coincide frequently, so that the two series of pulses can proceed together without disturbing each other, while the difference between the times of their other beats makes them distinguishable as notes of different pitch. The accurate perception by the ear of these differences of pitch, and the concords and discords which they produce, is a perception caused by differences in the formal element, the time or duration of the sounds, while its object, or the perception itself, is a mode of the material element, the feeling of sound; since it is only different compositions and arrangements of the periods of vibration which make differences of pitch. Pitch in short is nothing but an infinitesimal elaboration or articulation of sound into time portions. The perception of pitch, of concord, and of discord, is therefore an intellectual perception, since intellect is distinguished from feeling only by the greater predominance of the formal element in consciousness; and the pleasure and pain arising from these perceptions are pleasure and pain of admiration, not of enjoyment.

6. The third mode is that of quality, colour of sound, Klangfarbe. It is perhaps the greatest service of Prof. Helmholtz that he has shown the origin of this from the partial tones which are heard together with their ground tone in almost every musical sound which is heard. When these harmonic notes, as they are called, are by artificial means prevented from coming to the ear, the sound heard, that of the
ground tone alone, is comparatively characterless, and the same from whatever instrument it may arise. The vowel sounds of the human voice give the colour to the sounds uttered; and in this respect the organs of voice are of precisely similar nature to other musical instruments, only of a very perfect construction, admitting of far greater variability in the colour. The difference between musical instruments consists in the difference of colour which they produce, and the range or power which they have in producing variations within that colour. The colour of sound corresponds to the specific quality in other senses, to the different odours in smell, sapours in taste, and so on; but, as already remarked, these specific qualities of sound excel those of the other senses in this, that they depend upon and have their roots in differences of pitch, an intellectual sensation, since it is only from the composition of differently pitched sounds, in the harmonic notes, that the colours of musical sound arise. The colours of unmusical sounds, grating, rolling, hissing, rustling and so on, depending as they do upon vibrations so irregular as to be incapable of distinct measurement, correspond more accurately to the specific qualities of the senses of touch, taste, and smell; and it is only because, in hearing and sight, a domain of regular or periodic sensations, involving or containing a minute elaboration of the formal element, is added to the domain of their less regular sensations, which they have in common with the other senses, that hearing and sight are the source of pleasures and pains of admiration, and of the aesthetic perceptions of the fine arts.

7. The perception of pitch depends on a minute
analysis of sound, by the nerve organism of the ear, that of colour upon a synthesis of various pitches heard together; in both cases the ear is unconscious of what it is doing, perceiving only the result,—the pitch in one case, the colour in the other. Yet the synthesis which results in colour is less abstruse than the analysis which results in pitch; by attention the ear can be brought to perceive the harmonic notes, out of the combination of which with the ground note the colour has arisen; whereas no attention will enable us to perceive the separate moments of sound which together produce a perceived pitch; these are entirely below consciousness, and the pitch itself is the first and only thing heard: For, if the ear heard the separate beats in the periodic vibrations which determine the pitch, and composed the pitch out of them as heard pulses, we ought by an effort of attention to be able to hear the several beats in one pitch, just as we are to hear the harmonies which compose the colour. This attentive perception however destroys the pleasure of perceiving colour. The combination must be perceived unanalysed, in order to the pleasurable effect of colour on the ear. This gives the colour a less intellectual character than the pitch; for greater differences are combined together, the act of combination being equally unperceived. Yet the different pitches which are combined into colour give the possibility of an intellectual measurement when two colours are heard together, the ground tones of which may be either concordant or discordant with each other. This gives a second kind of harmony, founded on the comparison of colours, in addition to that founded on the comparison of pitches. Notes of the same pitch have different har-
monics in different instruments; and thus, harmony of pitch being laid at the basis, colour harmony arises within or upon it, having its pleasure dependent upon more complicated relations of form and matter.

§ 12. i. The sense of sight remains to be examined. It is in several ways the most perfect of the senses; the pleasure and pain peculiar to it are perhaps less intense than in any other sense, as those of hearing are less than those of touch, those of touch than those of taste and smell, and these than the pleasures and pains of the systemic sensations. Again it is in sight first that we come to single words as names for single specific sensations, the names of colours, whereas in other senses descriptive phrases or letters of the alphabet are used for this purpose; the reason of which is, that sight contains the element of space more clearly than any other sense, and, though it does not contribute more than touch to the perception of space in three dimensions, yet contributes far more than touch to the interpretation of the perceptions common to both. (See this whole subject discussed in Mr. Abbott’s Sight and Touch, especially Chap. iii.) We judge of almost everything by its visible marks: they are the signs by which we interpret it, as to its size, its distance, its shape, as well as its colour; and the visible marks of everything are that to which we chiefly attach our associations of its inner or moral qualities, according to which its effects will be. Sight then is the most closely allied to space; and space is the form which, as already remarked in the § on hearing, serves as the logic of all phenomena whatever, in virtue of its completeness and the complexity of its three dimensions.
2. The material element in sight consists of light, and colours which are modes of light. If we adopt the undulation theory, the sensations of light and colours arise in the nerve substance of the ocular nerve upon the impact of successive waves, or rays, of ether atoms, and depend upon the relation of these to this nerve substance and its modes of activity. A thorough examination of this whole subject has been recently given by Prof. Helmholtz in his Handbuch der Physiologischen Optik, which forms the 9th volume of the Allg. Encycl. der Physik, edited by Karsten. And from this I shall attempt to derive such a brief sketch of the phenomena of sight as may be necessary for the purposes of the present work.

3. In the first place it must be noticed that the colours of what are called coloured objects depend upon their absorbing and reflecting different rays of ether atoms in different proportions, rays which are emitted, or the atoms of which are set in motion, by bodies which are called, from that circumstance, self-luminous. Black and white are to these coloured bodies what darkness and extreme light are to self-luminous bodies or to light itself. The waves of light and colours which extend from the eye to the object seen, which is their ultimate, or their immediate source, consist of vibrations of ether atoms in directions transverse to that of the wave itself; differing in this respect from the vibrations of air particles in sound, which have the same direction as that of the wave of sound.

4. In all the phenomena of sight three features may be distinguished as modes of the material element, corresponding to the three modes of the material element of sound, intensity, pitch, and colour.
These are, in sight, brilliancy or intensity, which corresponds to loudness or intensity in sound; colour, which corresponds to its pitch; and tone, which corresponds to its colour. Speaking generally, the brilliancy depends upon the amplitude or length of space traversed by the ether atoms of vibrations, in directions transverse to the direction of the waves; the colour depends upon the time occupied by each vibration; and the tone upon the different amplitudes in the same time, or within the same colour.

5. White light, such as that of the sun, is a mixture of many rays, of different duration of vibration, which rays may be sundered, and exhibited as rays of different colours, by passing them through a prism, in consequence of the different degrees of refrangibility which distinguish rays of different durations of vibration. On this being done, we obtain what is called the solar spectrum, which consists of a series of colours in the following order, beginning with those of least refrangibility: Red, Orange, Gold Yellow, Yellow, Greenish Yellow, Green, Bluish Green, Blue; Indigo, Violet, Ultraviolet. Helm. p. 227.

6. To begin with colour. Colour corresponds to pitch in sound in the circumstance that each is ultimate, the minimum sensibile, in its kind; but they differ in this, that a pitch, resulting from the successive impact of beats at equal intervals, is always distinguishable from other pitches, though they may be in harmony with it, even from its own octave; whereas a colour, resulting from a single impact of a ray, the atom vibrations of which are transverse to the direction of the ray, is not distinguishable from another colour falling on the same portion of the retina, but the two or more colours so mixed
melt into a compound colour different from any or either of them, in which the simple colours are not discernible. Helm. p. 272. The correspondence between colour in sight and pitch in sound consists in their being ultimate features of their respective senses, and in their depending upon the corresponding circumstances in the waves producing them, namely, the rapidity or the duration of the appropriate vibrations.

7. The tone in colours corresponds to the colour in sounds in respect of their both being results of a composition of causes; the colour in sounds from a composition of pitches in the harmonic notes, as above stated, and the tone in colours from the conjunction of different degrees of intensity with different durations of vibration. Every colour accordingly has a number of different tones, or shades as they are sometimes called, according as the intensity is greater or less, that is, according as a greater or less length of space is traversed by the ether atoms in the particular time which is the duration of vibration producing that particular colour. And the greater the intensity, the whiter or more brilliant is the tone of the colour; the less the intensity, the darker the tone.

8. The intensity of sight has accordingly two modes, one in which it is seen in white or mixed light, the other in which it is seen in separate colours or coloured rays. Two rays of mixed or white light may have different intensities, and then each ray or colour in their respective spectra will have a different brilliancy from that of the same colour in the other spectrum; and also, in the spectrum of one and the same ray of white light, each
separate ray or colour may have, and in fact has, a different degree of intensity, which may be called its normal brightness. The colours of the solar spectrum may be arranged, according to their normal brightness, in the following ascending order:

Violet, Indigo, Red = Blue, Orange = Green, Yellow.

Helm. p. 278.

Yellow thus forms the centre of the spectrum in point of brightness, from which on either hand the normal brightness decreases, pari passu at first, but sinks at last lowest at the blue end of the spectrum. The intensity of light and colours depends also, not only on the extent of the vibrations of ether atoms, but on the reactive vigour of the nerve apparatus receiving the rays. An untired eye perceives minuter differences of intensity than a tired one; and there are points of intensity above as well as below which no eye perceives differences of intensity, which nevertheless are inferred with certainty to exist, though they are not felt. In this sight is but analogous to all the other senses.

9. If it is said that the brilliancy of single colours or of white light depends on the amplitude of the ether vibrations, it must be added, in equal times; and if it is said that the colour depends upon the duration of ether vibrations, it must be added, in equal spaces. Thus not only is brilliancy always found together with colour and vice versa, but also the brilliancy in a certain way depends upon the colour, and the colour upon the brilliancy. Helm. pp. 309, 317. The tones of each colour are changes in its degrees of brilliancy; and changes in its degrees of brilliancy are changes in its tone. The same
holds good of white or mixed light; it cannot become more brilliant without becoming whiter, nor less brilliant without assuming a tinge of colour, either by the absorption of some of its rays by the media through which they pass, or by a change in the relations of the differently coloured rays at their source. If the duration of vibration remains the same, the change of brilliancy is a change of tone in the same colour; if the amplitude of the vibration remains the same, the only change can be a change of colour; if both amplitude and duration vary, there is a change from one colour to another through intermediate tones, which may be described as mixed, but which are strictly speaking transition colours. Every colour in the spectrum at its central point has an equal right with every other to be considered a primary or uncompounded colour. This is shown by the fact that the mere superposition of two or more colours of the spectrum can not generate a third colour precisely the same in tone as the colour itself, as it appears in the spectrum; the colour produced by such a superposition is always less brilliant than the real spectral colour. The precise effect of any single colour in the spectrum can only be produced out of a superposition of two or more other rays than its own, by combining white or mixed light with them in certain degrees of intensity. In this way every colour of the spectrum may be considered as a result of three components, namely, a certain quantity of white light, and a certain quantity of mixed colours with their determinate normal brightness. Helm. p. 281-2. Every colour of the spectrum, moreover may be isolated, and the measure of its vibrations in amplitude and duration, or in other
words its wave-length, assigned; the proof of their isolation resting principally on the discovery of Fraunhofer's lines, which indicate that certain stages of refrangibility are not occupied by any of the solar rays. Helm. pp. 226, 236.

10. But although every colour of the spectrum is equally primary and irreducible to others, this does not imply that certain colours are not primary with regard to the constitution and functions of the retina. If, for instance, we adopt Young's theory, that there are three kinds of nerve in the retina, one of which is most readily stimulated by red, another by green, another by violet rays, these nerves being numerous and closely intermixed in every portion of the retina, the colours produced by each simple ray of the spectrum will depend upon the proportion in which the ray stimulates each kind of nerve, without being itself compounded of other rays, or depending upon their presence. In this sense, that is, in relation to the nerve and not to the rays of light, red, green, and violet, would be primary colours, out of different proportions of which all the other colours are composed. The nerve structure and function would thus be exhibited with some particularity as a concurrent cause of the phenomena of light and colours; contributing its threelfold kind of activity in conjunction with the vibrations of ether atoms in their scale of rays, or different measures of amplitude and duration, to the production of the different brilliances, colours, and tones of light. An hypothesis of this sort is not only analogous to the probable constitution of the auditory nerve, as exhibited in the preceding §, par. 5, but affords, says Prof. Helmholtz, "an extraordinarily simple and clear

11. The changes of colour produced by decreasing or increasing the brilliancy of white light in different colours do not occur in the same order in which the colours occur in the spectrum. For instance, violet in decreasing intensity of white light becomes first rose, then purple; green in increasing intensity becomes first yellowish green, then white; yellow becomes directly white, but only in very great intensities of white light. The colours beyond violet in the spectrum become, by decreasing intensity, indigo; by increasing, light bluish grey or lavender. Helm. p. 233. Every colour ends ultimately in white under sufficient intensities of white light. Grey is identical with white light of feeble intensity; brown with yellow or red of feeble intensity. All the colours that can be named may be produced in the same way, by changing the intensities of white light and the combinations of different simple rays of the spectrum. Sight however differs favourably from sound in the circumstance that there are no colours, simple or compound, which correspond to noise in sound. There is no confusion perceptible in the mixture of its colours. Confusion like harmony in colour arises first in the juxtaposition of separate masses of colour in figures of space.

12. The series of colours in the spectrum has already been distinguished, first, by the relative degrees of normal brightness in the colours, secondly, by the degrees of their refrangibility; the greatest degree of normal brightness was found in yellow, the greatest refrangibility was found in ultra-violet. We come in the third place to arrange the colours
in another order, that of their relation to white, in mixture with each other. All the colours together yield white; and there are also certain pairs of colours which together yield white; these are called the complementary colours. They are the following:

- Red and Greenish Blue,
- Orange and Blue,
- Yellow and Indigo,
- Greenish Yellow and Violet.

Green has no single complementary colour; the mid-point of green is the mid-point of the spectrum, on each side of which lie the two complementary colours in each pair. But purple, which is a compound of the colours at the two extremities of the spectrum, the darkest red and ultraviolet, is the complementary of green. When two colours are mixed which are not complementary, the following are the results: if they are nearer to each other in the spectrum than complementary colours, the resulting colour is one that lies between them in the spectrum, and is whiter in proportion to their distance from each other; thus, for instance, red and green yield whitish yellow; orange and greenish yellow yield yellow. If they are farther from each other than complementary colours, the resulting colour is either purple or a colour lying between one of them and its own end of the spectrum; for instance, red and blue yield whitish purple or rose colour; red and indigo yield dark rose colour. Helm. pp. 276-9, where is given also a complete table of these mixed colours.

13. It is not necessary, I think, for the present purpose to enter upon the wide field of contrast of colours, simultaneous or successive, and the produc-
tion of positive or negative after-images. Enough has been said to show the nature of the material element in sight, and to introduce the following remarks on the relation which it bears to the formal element. When we compare the phenomena of hearing and seeing as they have now been described, it appears that they fully correspond to each other. But there is in sight another element which has not yet been drawn into the comparison. Every sensation of light or colour occupies space, fills a certain surface however small; but the particular shape or outline of this surface, its size, and the boundary lines between its colours, have not been considered. There is something in the phenomena of sight which remains over, after finding an analogue for all the phenomena of hearing; something to which the whole phenomenon of sound, form and matter together, has nothing correspondent to show. Its formal element, time, is employed in producing the phenomena of musical pitch and colour, the correspondents to which in sight, colour and tone, arise without any special modification of the formal element peculiar to sight and touch, namely space. The pleasure and the pain arising in brilliancy, colour, and tone, which are modes of the material element of sight, and in the contrasts or agreements between them, must be set down as pleasures or pains of enjoyment, not of admiration; and the pleasures or pains of admiration in sight must be referred to the boundary lines, outlines, or figures, which are found in surfaces covered with light or colour.

14. When one colour bounds or limits another, there arises a line of demarcation of a certain direction; several colours limiting each other have each
a certain shape or figure in reference to the rest. When these shapes can be easily measured and classified by the eye, there is such a phenomenon as was exhibited in hearing, in the distinction of equable sounds from unequable. The shapes may then be either harmonious or inharmonious, of which the eye is the judge; and it may be that the harmonious shapes and figures may receive corroboration of this judgment from actual measurement, and that principles may be discovered, expressible by relations of number, upon which the harmony in form depends, just as the musician is enabled to justify the scale. This whole part of the subject has been well discussed and developed in Mr. D. R. Hay's First Principles of Symmetrical Beauty. Such proportions of figure are capable of combination with great variety in the material modes of sight, as, for instance, in the colours and figures of the kaleidoscope. But wherever this is the case, the total pleasure or pain contains two elements, that of admiration from the form, and that of enjoyment from the matter of the object. In some figures that are pleasing there is also an element of enjoyment from the form, as for instance in figures which are easy of comprehension or easy of production; the sense of effort, a sensation, is flattered by both; diagrams which exhibit much matter in little space are called 'elegant' by mathematicians; and usually figures of curved lines are more pleasing than angular figures, because of the ease of motion of the eye in traversing them, or from the association of case in our own limb movements, which naturally sweep out curves; though this properly belongs to representation. A curved line such as the ogee curve has both these elements
of pleasure; the correspondence of the two curves in it is the source of the pleasure of admiration, and the ease of the curves themselves of the pleasure of enjoyment. These two sources of pleasure or of pain, and the pleasures and pains themselves, which are found together only in the two senses of hearing and sight, or, if in touch, yet in touch only as interpreted by sight, are carried over into representation with the objects in which they are found, and will be there discovered in greater perfection and complexity. Here it is proper only to consider them so far as they exist in single objects, that is, in objects or moments so small in space, or so brief in time, as to be fairly considered objects of presentative perception, not including memory or representation.
CHAPTER II.

PART II. THE EMOTIONS.

Our dark foundations.
Wordsworth.

§ 13. I. Let me first give what appears to be the current or psychological view of the emotions and their relation to representations. In redintegration, whether memory or imagination, and the representations of which it consists, we appear to have before us phenomena which are purely subjective in character; we seem to be spectators in a theatre the scene of which consists of empty space and empty time, which the spectators themselves fill with scenery and actors of their own, drawn from their own experience. The curtain draws up, and instead of real scenery and real actors, the objects of presentation, there is a phantasmagoria of representations, the proper seat and home of which is in the brain of the spectator, and only projected by him upon the stage. This train of subjective images may, it is true, be more or less correspondent to the reality, to the objects of presentation by which it has been produced and of which it is a repetition, but it is in itself entirely
subjective, and its truth consists in the exactness with which it renders the objects and events of presentative perception. The distinction between object and subject falls here entirely beyond the train of representations, falls between that train and the objects of presentation which it represents. But, within this train of representations itself, the place formerly occupied by the distinction between object and subject is now occupied by another distinction, that between the representations themselves and the emotions which they excite, these emotions being new feelings aroused in us by the representations, deriving their character from them, and answering by minutely corresponding changes of emotion to every change in the representations which cause them. The emotions thus depend immediately upon the representations, mediately upon the objects of presentation which they reproduce; and that which the presented objects, or real things, are to the representations, these again in their turn are to the emotions, namely, comparatively real objects to feelings which are out and out subjective. Such I apprehend to be the current view.

2. Now it is true that emotions arise first in representation. Representation first completes the formation of remote objects of perception, the common objects which we see and hear and feel around us, which consist of presentative perceptions gathered up and combined into portions of space and of time in the way which it was attempted to describe in "Time and Space" § 26. Then first, on this having been done, a new set of feelings is disclosed, of feelings inhering in or attached to these objects, all which feelings are, by themselves, in the form of time only
and not of space, just as all the sensations are, except those of touch and sight. These new feelings pervade the entire remote objects when represented, and change with any the least changes in those representations. The represented qualities in the remote objects have each some share in the new feelings, the emotions, which attach to them. Change any one of these qualities and the emotion is changed; or, if you start with observing a change in the emotion, you will find on examination that a change has taken place in the representation. But this change is, on the metaphysical view of the matter, not a case of causation of the one phenomenon by the other, but one of simultaneous change in the two phenomena in consequence of a change or a cause common to both. A change in emotion is not caused by a change in representation, but one change is the obverse aspect of the other; the pervading emotion and its representational framework are to each other as a ray of sunlight to its prismatic spectrum; they are the cognitive and the emotional aspects of one and the same state of consciousness.

3. It will be necessary to examine at some length the psychological theory of the emotions; but before doing so the true relation between the subjective and objective aspects of phenomena in presentation and representation must be made clear, since it is here that the misconception lies which gives rise to that theory, and here the central truth on which all metaphysical systems must be based. The act or moment of reflection, or self-consciousness, in which for the first time the distinction between the objective and subjective aspects is drawn, or discovered in phenomena, is the cardinal point in philosophy;
and on the analysis of it depends the solution of all the most important questions in philosophy which are still agitated. An analysis of it was offered in "Time and Space" § 21, which I still think true; though I am very far from thinking that no more can be done to its elucidation. Nevertheless, since I am myself convinced, not only of its truth, but also that it offers the only means of reconciling Metaphysic with the special sciences, and of incorporating it into their system as a science among the rest, I will take leave to start from the point there reached, and proceed to show how the distinction between the objective and subjective aspects is applicable to all phenomena, whether presentative or representative, and in what sense these two aspects are inseparable from each other in fact, while they are always logically distinguishable.

4. Placing ourselves at the Subject's point of view (suppose an infant newly born), he feels a crowd of sensations occupying some duration in time and some extension in space; but these are to him mere phenomena, he has not reflected that he feels them, or that they are feelings coming from without him; in the next place, partly by reintegration, partly by new presentations combined with the old, these phenomena shape themselves into groups or things, his own body being one of these groups, and the rest coming and going around it; these groups of phenomena are what I have called remote objects of perception, "Time and Space" § 26. Then arises as one representation among the rest the distinction of Self from all its perceptions, and the consequent distinction of the subjective and objective aspects of what were previously mere phenomena, by a process
which I have attempted to analyse in "Time and Space" § 21, and need not here repeat. The result is, that all phenomena are now distinguished as being on one side states of consciousness, on the other objects among objects; and that the whole of every object is a state of consciousness, the whole of every state of consciousness an object; one not the cause of the other, but each an inseparable aspect of one and the same thing. To have demonstrated the latter part of this view, though without carrying it out to the analysis of the Subject itself, is the immortal glory of Berkeley.

§ 5. From this point onwards we are in the domain of pure representations, and we feel emotions pervading them, as already described. Still however the same distinction applies, and every representation with its pervading emotion has an objective aspect, the thing represented with its qualities of sensation and its qualities of emotion. In other words, every emotion with its cognitive framework appears both subjectively, as a mode of thought and emotion, and objectively as an existing object, the independent existence of which is a belief, with qualities corresponding both to the thought and to the emotion; the emotion being what may be called the character of the existing represented object. This is the explanation of the personality which poets find in nature, the glory and grandeur of landscapes, the cheerfulness or melancholy of winds and waves; or, to take an instance which I have already employed, the cup of water which we know to be poisoned receives from that knowledge a character of hatefulness in addition to, yet pervading, the image or framework in representation which is the knowledge or
belief of its physical properties. The same is the case in contemplating persons; the emotions which we feel in the contemplation are represented by us as mental qualities of the person contemplated, as virtues or as vices, as $\exists\phi$ or traits of character, such as patience, firmness, courage, selfishness, ambition, generosity, candour, and so on. That which is emotion subjectively is mental quality objectively, just as in physical objects that which is sensation, sight or touch for instance, subjectively is physical quality objectively. And it makes no difference whether the Subject, from which the subjective view is taken, is in the person contemplated or in ourselves, so far as the subjective nature of the phenomena is concerned, though the judgment passed by the two Subjects will be different. Subjectively to the person contemplated his own mental qualities are emotions, and though he can contemplate them also objectively, or as qualities of his own mind, just as he can those of another person, yet in neither case has he any other knowledge of them than as emotions, or any other analysis to give of them than into emotions. Aristotle’s Ethic is chiefly occupied with these mental qualities, treating them objectively, as virtue, courage, benevolence, and so on. It was reserved for more modern times, Spinoza leading the way, to begin the examination of them from the subjective side.

6. Now in what does the inseparability of the objective and subjective aspects of phenomena consist, and how is it to be understood, since it is clear that, although in presentations and perception of remote objects there is a certain continuity of space and of time between the things perceived and the mind perceiving them, this continuity is not what is
meant by the inseparability in question, because this continuity does not exist in the case of pure representations and their objects? The order of sequence in representations does not correspond with the order of sequence in the objects represented as constituting the existing world of nature, of which the representations are a miserably poor and fragmentary picture; and again, the representations are often pictures of objects which never have and never could have existed in the order of nature such as we know it, as for instance in dreams and works of fiction. Besides which, the course of nature and natural objects have an existence not only more perfect and complete than our representations of them, but also entirely independent of our existence and our representation. In what then consists the inseparability of the objective and subjective aspects of phenomena? Clearly not in the dependence of either aspect on the other; clearly not in the order of their respective sequences; clearly not in the continuity of time or of space between the separate objects and their representations in the mind. The distinction between Nature and History, οὐσία and γένσος, is that which must help us to an answer. The inseparability of the objective and subjective aspects of phenomena applies only to the nature of phenomena, and not to their history. Given any phenomenon, its nature is a feeling or complex of feelings in time and space; this is its subjective aspect. But what is its existence? Its bare existence is the reflection, or imagination, or perception, or belief of it; its bare existence also, as well as its nature, is a part of, or finds its counterpart in, its subjective aspect. The subjective aspect of any phenomenon, then, is the presentation or re-
presentation of a feeling or feelings in time and space. And conversely, given any such presentation or representation, the objective aspect of it is the bare existence of a phenomenon of such and such qualities in time and space. Its qualities in time and space and their bare existence are fully mirrored in the state of consciousness which is its subjective aspect. This, which applies to every single phenomenon, applies to it however large or small, simple or complex, it may be; it applies to phenomena, whether we take them each separately, or gathered together into aggregates; it applies to the entirety of them, the universe itself, which is but one vast phenomenon.

7. I have used the term bare existence to guard against the mixing up the existence which a phenomenon has for consciousness alone, irrespective of its certainty, permanence, or frequency, with the existence which phenomena have in comparison to each other, which includes not only the degrees of their comparative certainty, permanence, and frequency, but also the relations which they have between themselves, as conditioned by and conditioning each other. The existence of phenomena including these considerations is their historical existence, with which the inseparability of objective and subjective aspect has no concern. Bare existence on the other hand is presence in consciousness, irrespective of whether this is actual or possible presence, and of what is commonly known as reality or unreality of things. And this is the consideration which excludes the assumption of an Absolute, or of a Ding-an-sich; for these cannot be less than bare existence, and bare existence has its subjective side.
8. We know from habitual reasoning founded on habitual experience, that the world of objects has existed for an enormous period of time; that it contains many objects and forces which are unknown to us, except of course the mere generality, that they are objects and forces; that these objects and forces have produced and are ever producing effects which are quite independent of whether we or any one else knows anything about them or not; that we ourselves, and many other living and sentient beings, have been born upon the earth at a late epoch in the history of this universal world of objects, and that we depend upon, and are the products of, some of the objects and forces which this world contains. When we consider this knowledge or belief; we find that it is itself, as to its own nature, as well as that of the objects and forces about it, objective as well as subjective. But as to the history, both of the knowledge and of the things known; as to the order of sequence, certainty, permanence, or frequency, of the things known; and as to the place of the knowledge itself in that order of sequence, the conditions of its several portions, and certainty of each of them; in short, as to the γένεσις of everything, whether regarded as a subjective state or an objective thing; here, that is to say, in this class of considerations, the inseparability of the objective and subjective aspects has no influence and no place. It applies only to the relation between consciousness and its objects as such, that is, objects in relation to consciousness alone, not in relation to other objects in consciousness; to the nature, the τι ἐστι, of phenomena. It applies to the relation between an individual consciousness, arising in this or
that organised body, and the objects of that individual consciousness, when taken separately and as objects to that consciousness alone; but it does not apply to the relation between this or that individual consciousness and the order of nature, or sequence of objects discovered by the accumulated reasonings of mankind. Compared to that order and that sequence of objects an individual consciousness is, not its subjective counterpart, but one phenomenon in its sequence. The world, then, which exists with its objects and its forces independently of our puny existences and our feeble thoughts, though its nature, its \( \pi \iota \lambda \sigma \tau \iota \), its bare existence, is to be actually or possibly present to consciousness, is yet in its certainty, its permanence, its causative agency, and its inherent power, no counterpart of the consciousness of any of its individual members. The states of consciousness of any individual, and their order of sequence, are determined partly by the physical organisation of his body, partly by forces and objects which act upon it; and, just as his whole conscious life is one among many conscious lives of other individuals, so his physical organisation and its history is one portion of the objects and forces which fill the world. The consciousness which depends upon such a minute portion of the world as this can be no subjective counterpart, but a very limited and fragmentary picture, of the world which it reflects. The complete subjective counterpart of the universe is for us an Ideal Being of perfect knowledge.

9. When, therefore, we approach the phenomena of consciousness as existing in an individual, and examine them, as we must, from the subjective side,
there are two branches of the enquiry; the first is statical, an analysis of each phenomenon and group of phenomena by itself; the second is dynamical, an analysis of the movements or changes between the phenomena or their groups. The first branch only is the object of the present chapter. Every such phenomenon or group of phenomena has its objective aspect as well as its subjective; and this objective aspect consists, for the individual, in the fact of his presenting, representing, imagining, or believing in, the objects which he is said to have in his mind, the objects of his states of consciousness. Their existence is to him subjectively a belief or a disbelief. The first of these groups of phenomena contains the various sub-groups of presentations; examined in Part I. of this chapter. The second contains those of remote objects of perception, with which I shall not here concern myself; they form the domain of the special physical sciences. The third contains pure representations, and the groups into which they fall. Emotions belong, as we have seen, to this third group, being involved in representations. Emotions must be analysed as component parts, aspects, or elements of the representations in which they arise; and both the emotion and its representational framework must be treated as equally subjective, equally objective. The metaphysical distinction between subjective and objective aspects of phenomena demands this treatment of them, unless grounds should appear for separating emotion and framework, as effect and cause respectively; in which case, the representations must be treated first, and the emotions become the object-matter of a fourth group of phenomena, standing to representations as these to re-
mote objects or presentative perceptions, and formed out of representations themselves, not added to them in redintegration as additional pervading elements, having their origin elsewhere than in the representations themselves.

§ 14. 1. The theory that it is the qualities of sensation which, when known or imagined, produce as their effects emotions in the mind necessarily imposes on itself the task of accounting for the particular kind of any emotion by its resemblance to some particular kind of sensation which is its cause, and of pointing out the steps in the transition from one to the other in cases where the sensation does not at first sight resemble the emotion caused by it. For the theory is, that there is nothing in the emotion which was not originally contained in the sensation; if, then, the emotion does not resemble or repeat the sensation, its difference from it must lie in the changes wrought in the sensation by the various modes of representing it, by its combination with other sensations in representation, by its intensification by habit, by its reference to past or future time, by its being represented as the means to other sensations, or other sensations as the means to it, or by any other modes of change which may come under the meaning of the term association of representations, spontaneous or voluntary. This association in representation will then, it is held, if accurately enough analysed, give the different steps in the transition or transformation of sensation into emotion, and exhibit the emotion at the end identified with the sensation at the beginning. The theory here maintained is, on the contrary, that no such analysis of association, however accurate, can account for
the whole difference between sensation and emotion; that this association gives us only the framework or representational basis for the emotion; and that, though in this way the association is one requisite of the change of sensation into emotion, yet there is always a residue of feeling, namely, the emotional element itself, left unaccounted for, which must therefore be referred to its physiological condition, the nature or action of some part of the brain or nervous matter, the property of which is to support or produce, under the appropriate conditions, this kind of feeling, just as the senses themselves, sight, touch, hearing, &c., are produced or supported by the nervous matter appropriated to them. My argument is, that the elements of sensation, when represented, do not produce or generate, are not transformed into emotions, but that the emotions are superinduced upon the represented elements of sensation; because those states of consciousness which we call emotional are found to contain both kinds of elements existing simultaneously, as elements of their nature, or of what they are, and not merely the element of emotion succeeding that of sensation. If you had analysed, in the case of any emotion, the entire framework of its represented sensation, you still would not have analysed the whole of the emotional state itself. When the sensation of white is produced by the combination of the colours of the prismatic spectrum, to adopt Mr. J. S. Mill's illustration in his note at page 252 Vol. ii. of his recent edition of Mr. James Mill's Analysis of the Human Mind, we have not the two sensations simultaneously, but we have either the white or the colours. Not so with the emotions. There both elements are in conscious-
ness together. The emotions in my theory become a new kind or mode of feeling, depending upon the constitution and operation of nervous matter; and in this respect are similar to sensations; from which again they differ in that the appropriate conditions stimulating the actions of their nervous matter consist, not in the motion or impact of particles of external visible and tangible matter, but in those motions of the nervous matter itself which support the representational frameworks.

2. If this theory is true, it follows that the opposite theory must fail, either in its account of the steps of transformation of sensation into emotion, or else in its conception of the emotions themselves which are to be accounted for; if the analysis of the steps of transformation is complete, the end reached cannot be the emotion in its true shape, while, if the emotion is truly conceived, the steps towards its arising must be erroneously described. Both objections apply more or less, as it seems to me, to the accounts that have been given of the emotions by writers of this school. Hobbes is the originator of the theory, in its modern shape at least; Locke followed, but did not say much on this head; Tucker is perhaps the writer who has most minutely applied this theory to the analysis of the emotions; while James Mill has compendiously systematised the whole range of emotions, as he conceived them, in the manner of Hobbes but far more minutely. The theory is apparently adopted also by Prof. Bain in his valuable work The Emotions and the Will, Chap. ii. 2d edition. See also an explicit statement of it as a probable theory, by the same writer, in a note at page 231, Vol. ii., of the recent edition of Mr. James
Mill’s work already mentioned; but he has not, I believe, aimed at giving a formal proof of it. Perhaps the theory can be best examined where the most express proof of it is offered; and accordingly I will follow Tucker and Mill in the account they give of some few of the emotions, and endeavour to make good the two objections which I have just urged. This will perhaps be at the cost of some repetition when the emotions are examined and arranged on my theory, but it will serve to clear the ground and smooth the way for that examination.

3. Tucker gives the following account of Anger or Revenge, in his Light of Nature, Vol. i. Chap. xxi. p. 163, 3d edit. “Whatever may be thought of other passions, this cannot be born with us, for there are several things to be learned before we come to the idea of anger: nature makes us concerned originally only with our own pleasures or pains; we feel not, and consequently regard not, what happens to other people, until having received hurt from them, and found that our retaliating the like prevails upon them to desist from offending us, we thence learn the expedition of exerting ourselves upon such occasions. Thus the desire of revenge is not a natural but a translated desire: we first look upon it as a means of procuring ease to ourselves, and security from injury; but having often beheld it in this light, the end at length drops out of sight, and desire, according to the usual process of translation, rests upon the means, which thenceforward become an end whereon our views will terminate. We may reckon at least four stages in our progress to the passion of anger: our experience of damage brought upon us by others, of our power to give them displeasure, of the effects
of such displeasure to make them alter their measures, and of the opposition we must expect against the exercise of that power. But having by these gradations once brought satisfaction to connect immediately with revenge, it becomes a motive of action which we pursue many times by ways not at all conducive to the end that first rendered it recommendable." And again: "for, however it may be said that revenge is sweet, the sweetness does not come until the desire ends by having been glutted."

4. In the first place, let us carefully distinguish two things which in the above account are not distinguished, the feeling of revenge and the acts or circumstances which express that feeling; for it may happen that the same acts may be done both with and without the feeling of revenge. It appears to be of the acts alone that the expression is used "brought satisfaction to connect immediately with revenge." Now what satisfaction, or satisfaction of what kind? It must be, or ought to be, satisfaction of the kind we feel in avoiding or removing some bodily injury, for the satisfaction is transferred from this, as an end, and fixed upon the means; and so the satisfaction remains the same, while the embodiment or object of it is different. Is this then the kind of satisfaction which is the pleasure of revenge? Certainly not; the means are of a different kind from the end, and the satisfaction which attaches to the means is of a different kind from the satisfaction which attaches to the end; with the change in the object there arises a change in the satisfaction, or pleasureable emotion. The satisfaction of one kind in the end will not account for a satisfaction of another kind in the means. Hence it seems that the
true conception of what the satisfaction of revenge consists in has not been kept in view; it is not revenge that is accounted for, but either some general satisfaction or the satisfaction of avoiding pain. What then is it in which the satisfaction of revenge consists? It is requisite to it that its object should be a person made to suffer for inflicting injury on the person feeling revenge. This object may be produced in representation under the title of means to an end, by a voluntary redintegration which has become spontaneous, but the peculiar satisfaction attaching to it will belong to it in virtue of its own character, and not in virtue of the mode of its production in representation. If otherwise, the satisfaction would not have changed its character. Again, this account of the genesis of revenge contains nothing to distinguish revenge from any satisfaction which we take in the means of avoiding evil; we ought, on this theory, to feel revenge just as much against inanimate objects inflicting injuries which we can take measures to prevent, as against sentient beings; and this children do; but only while they attribute life and sentience to those objects. No man feels anger or revenge against an object which he regards as non-sentient. And yet, on this theory, the satisfaction should be translated to the means as much in one case as in the other.

5. Now to take the case of Grief. Tucker says, Vol. i. p. 165: “But of all the passions, there is none more difficult to be accounted for than grief, which keeps the mind intent upon a troublesome idea, that one would think she would endeavour most strenuously to throw off.” His explanation is as follows: “Thus the mind having found the con-
temptation of evil, and the increasing her sensibility of its pressure expedient, desire, as is usual in the like cases, becomes translated to the means, and her view terminates upon afflicting herself as much as possible, without prospect of any further end to be attained thereby. When she has often turned the spirits into this train, they will take it afterwards mechanically."

6. Thus grief is entirely a mistake. If man's voluntary efforts were by such a law of their action compelled to produce the very opposite of what they aim at, and thus to produce the more pain in proportion as they performed their function of avoiding pain more perfectly, man would indeed be an enigma. But now take James Mill's account, Analysis of the Phenomena of the Human Mind, Vol. ii. p. 150-1 (Vol. ii. p. 191-2, ed. 1869). "An aversion is the idea of a pain." "My state of consciousness under the idea [of a pleasure], that is, the idea itself, I call a Desire." At page 158: "When a pleasure-able sensation is anticipated with certainty, we call the state of consciousness Joy. When a painful sensation is thus anticipated, we call it Sorrow." Sorrow, then, is a painful sensation anticipated with certainty, for this is the meaning of "we call it Sorrow." Where Tucker employs the machinery of means and ends, Mill employs that of future time; his future certainty is a mode of explaining how grief is persisted in, so that he escapes from the objection of 'mistake' to which Tucker is liable. The chain of associations founded on knowledge which we cannot get rid of compels us plainly to have the idea of the circumstances of the painful sensation brought home to us. But whatever the machinery
employed, whether the involuntary representation of a future certainty of pain, or the voluntary representation of a means to avoid pain, the same objection holds good as in the case of revenge, namely, that the kind of pain in the sensation is different from the kind of pain in the emotion called grief or sorrow; and, whatever may be the steps by which the representation is effected and brought home to consciousness, if either of these accounts were true, the only pain in grief must be of the kind of sensational pain; whereas there are many sorts of grief, for instance, that for loss of friends, unkindness of friends, ingratitude of those benefited by us, remorse, wounded pride, and so on, which are very different in their kind of pain from the pain of any sensation. This new kind of pain, then, must it is true arise in the representation, but cannot be deduced from it or from the sensations which compose it.

7. I will take another instance, the emotion of Love. Tuck'er, Vol. i. p. 166, says: "Under the helpless condition wherein we are born, we stand indebted to the care of others for the continual supply of our wants, and the satisfaction received in such supply communicates a portion of itself to our idea of the person administering it; therefore a child's first love is its nurse." "But after having a little enlarged our acquaintance, and found that everybody will not, like nurse, give us the same assiduous tendance upon all occasions, but are more or less willing to oblige us, according as they are at ease in themselves, or as we can oblige them, then are we ready to do and to wish them pleasure, that they may be the more ready to humour us. Yet this is not perfect love; which will suffer no advantage
of our own to stand immediately in view. In further process of time, if we find our enjoyments arising chiefly from the conversation or intercourse of one or a few persons, we practise the like method of engaging them to serve us so frequently, until this end slips out of view, and satisfaction, as we have before remarked in cases of translation, adheres immediately to the thought of doing them kindness. Then it is that love becomes personal, and then arrives at its highest state of refinement, wherein it may be defined the pleasure of pleasing: for I cannot conceive a purer love than that which makes us feel a sensible delight in gratifying another, and in everything that happens conducive to his gratification, without thought of any other benefit redounding therefrom to ourselves, except that very delight. And this delight is of two sorts, which may be distinguished into Love and Fondness; the latter tends barely to gratify, the other to gratify without doing a disservice, and even to forbear a present compliance for the sake of a real advantage.” “Thus the most resplendent love springs originally from our concern for ourselves, and our own desires, like a rose growing from a dunghill.”

8. Mill’s account seems to approach nearer to Tucker’s than in the case of grief; he adopts the machinery of cause and effect, very much the same as that of means and end. At page 158, Vol. ii. (or p. 204, Vol. ii. ed. 1869) he says: “An object contemplated as a future cause of a future pleasure is an object loved, whether the anticipation is certain or uncertain.” And this shows the constant union of joy and love, for joy is “a pleasureable sensation anticipated with certainty.” When therefore, in think-
ing of the cause of a future pleasure, the pleasure is contemplated as certain, we feel love and joy together.

9. But here again I must repeat the same objection. The satisfaction which is translated from the end of personal advantage to the means, the gratification of another, must be a satisfaction of the same kind after translation as before. But if the satisfaction in "the pleasure of pleasing" is of a different kind from the satisfaction of procuring self-gratification, then the presence of one does not account for the presence of the other; but the satisfaction in "the pleasure of pleasing" must be referred to some other source, namely, to the new object which is now represented, as the proper and peculiar object or framework of the emotion, and to the kind or mode of operation of the nervous matter concerned in supporting this representation, as the physiological cause both of the emotion and of its connection with its proper framework. The enumeration and analysis of the steps in the representation of this new object, or cognitive framework, of the emotion is not a sufficient account of the change in the kind of satisfaction, without taking also into consideration the kind of object which has so arisen, as the object of the new kind of satisfaction.

10. One more instance from Tucker, an instance in which his analysis is partially successful, will serve, by showing the reasons of its success, to apply, as it were, the method of 'concomitant variations' to the question in hand. I mean his analysis of avarice. Avarice proper, he says, or the love of money for its own sake is a desire of the advantages which money procures translated from the ends to the
means, that is, to the possession of money itself separately from, or even to the exclusion of, those advantages. This account of avarice is true of all those cases in which the advantages procured by money are visible and tangible possessions of the same kind, visible and tangible, as money itself; and for this reason, that the kind of satisfaction is the same; it is the satisfaction of possessing visible and tangible objects. But even here this general kind of satisfaction is differentiated into varieties by the sub-differences in kind of the objects possessed; and though the general kind of satisfaction is the same, and may be translated from end to means, the theory does not hold in its minutiae; the particular satisfaction of possessing coin or notes is not precisely the same satisfaction as that of possessing pictures, or plate, or horses, or servants. And as matter of fact, we rarely or never find that a man who cares much for the possession of objects which are consumed in the enjoyment, such as cigars, wine, or luxuries of the table, becomes avaricious either of money or of objects the enjoyment of which is reaped by the mere contemplation of possessing them. Still more, a man who desires power, or honour, or flattery, though all these may be commanded by money to a great extent, is never found to translate the desire of them to money as the means of procuring them. Avarice appears, in its fundamental characteristic, the love of possessions, to be not restricted to money; but, whatever a man is fond of possessing, of that he becomes avaricious, if that particular fondness is indulged to excess. The proportion of truth, then, which lies in Tucker's analysis of avarice, depends upon the sameness in the kind of satisfaction which
is translated from the possession of the end to the possession of the means.

11. The foregoing instances show clearly enough the method followed by the psychological theory. Distinguishing sensations from emotions as feelings of a different kind, this theory attempts to show that the one grows into the other by means of representation or association. It is an extension of the doctrine Nihil in intellectu quod non prius in sensu to the emotions, or as they used to be called affections or passions; Nihil in affectu quod non prius in sensu; and this further transition is wrought through the intellectus, or is an intellectual process. The difference in kind between sensation and emotion is not denied but insisted on, and then it is attempted to show that the one becomes or changes into the other. This attempt is necessitated by the distinction between them being at first drawn empirically, sensation set down as one thing and emotion as another, instead of metaphysically by conceiving emotion as sensation and something more besides. Consequently the psychological theory has not only to point out in an emotion the disjecta membra of sensation, but also out of these, together with the mode of their recomposition, to construct the whole of the emotion. This however cannot be shown, because in those states of mind which are called emotions we can distinguish not only these disjecta membra and their recomposition in new shapes, but also, simultaneously existing, the emotional element which gives its name to the whole.

12. Hartley was, I believe, the first to connect systematically the psychological theory with the physiological cause of sensation and emotion. I bring no
objection against the physiological, but only against the psychological, part of his speculations. Indeed I would carry the physiological part more completely into action, by calling on it to account for the nature of the emotions, as well as for that of the sensations and their association. Hartley begins that section of his Observations on Man which treats of the Affections in general by saying: "Here we may observe—First, That our Passions or Affections can be no more than Aggregates of simple Ideas united by Association. For they are excited by Objects, and by the Incidents of Life. But these, if we except the impressed Sensations, can have no power of affecting us, but what they derive from Association; just as was observed above of Words and Sentences." Observe the reasoning: the affections can be nothing but what the sensations together with their association were, because it is by them that they are excited; the nature is made to depend upon the genesis, instead of being analysed independently. He proceeds: "Secondly, Since therefore the Passions are States of considerable Pleasure or Pain, they must be Aggregates of the Ideas, or Traces of the sensible Pleasures and Pains, which Ideas make up by their Number, and mutual Influence upon one another, for the Faintness and transitory Nature of each singly taken. This may be called a Proof a priori. The Proof a posteriori will be given, when I come to analyse the Six Classes of Intellectual Affections; viz. Imagination, Ambition, Self-Interest, Sympathy, Theopathy, and the Moral Sense."

13. But though the physiological conditions of consciousness are brought into play, and, as is evident, by an ardent supporter of the psychological
theory, that theory is not thereby strengthened but weakened; and, I will add, the unreserved reference of conscious states to nerve action completes its destruction. In the first place, a vera causa is acquired for the emotional as well as for the sensational element in emotions; and in the next, the nerve action, which supports sensations and their association, replaces the sensations and their association as the cause of the emotional states. That which is new in the emotion, its acknowledged and apparent difference from the sensations out of which it is supposed to be constructed, must now be referred not to the sensations and their association, but to the nerve and nerve action which support them, and, when continued, support the emotion. The notion that sensations grow by association into emotions supposes, on the contrary, that the cause of the emotions lies in the sensations and their association, not in the nerve and nerve action supporting them. Otherwise its doctrine, that emotion could be entirely analysed into sensation and association, if only we had sufficient insight, would have no meaning; unless indeed it meant, what its maintainers will be slow to admit, that emotions are not different in kind from sensations.

14. It seems to me an error common to all psychological, and indeed more or less to all empirical, schools of thought, that they content themselves with giving the history or genesis of the phenomena before them, assuming as if already known the nature or analysis of each phenomenon in the series, phenomena which may indeed be familiar, but which are not on that account known; and then that they imagine that each new phenomenon, so left unanalysed, con-
tains those elements only which they were acquainted with in its antecedent phenomena. In psychology, the first and most important instance of this error is the assumption of the division between the body and its sensitive organs, on the one side, and the external objects of the world on the other; or, what is equivalent in this case, of the division between mind and matter, as a primitive fact of consciousness. The psychological schools all make shipwreck on this rock; for in consequence of this assumption they set down everything which we either know or feel about external objects, except what is contained in their structure and functions as masses of solid, that is, of visible and tangible bodies, as if it belonged exclusively to the mind and not also to the objects. Hence they look to the objects as the causes of all our feelings, and attempt to discover changes in them which cause corresponding changes in feeling; and so far without error; but then, since the only changes contemplated in the objects are such as cause changes in the sensations, it follows from this view, that all our feelings, the emotions included, must be either sensations or representations of sensation. They are however, as it seems to me, strangely forgetful of what they admit and indeed proclaim in the case of the sensations, namely, the important part which the nervous organism plays in the production of states of consciousness; and if it is in a great measure to the nature and operation of this nervous organism that we owe the particular kinds of sensation as well as sensation itself, why should we imagine it to play a less important part in the production of emotions, and, restricting it in this field to being the mere medium or means of putting sensations together in
representations, deny it the office of determining in any way a change in the kind of feeling which these representations contain? It is surely agreeable to analogy with the case of sensations to suppose, that with every change, even the least, in the representations, carried on by this nervous matter in its function, there should arise, correspondingly, a certain difference or change in the feelings which they contain, as well as in the grouping of those feelings; and all such changes may properly be called emotional.

15. This oversight and this assumed difference between the sensations and the emotions, the sensations appearing objective as well as subjective, but the emotions subjective alone, causes the appearance of the comparative unreality of the emotions. Yet they are as stable in their obedience to fixed laws, and in their nature as capable of analysis and classification, as the sensations. It is not in point of reality but in point of truth that they may differ from sensations. If, however, a certain emotion always arises in a certain representation, it is as true as that representation itself, for the truth of states of consciousness consists in their permanence under examination. Experience and repeated examination is the test of truth. If therefore any emotions are found always arising in the same representations, as their permanent occupants, and if these representations are themselves permanent, it will be as difficult to eliminate these emotions from consciousness as it is to eliminate those conclusions of reasoning which always result from an examination into the phenomena about which they are concluded. There is no difference in this respect between emotions, the moral character of representations, and those relations of
the represented objects which are expressed by logical propositions; for the properties of generality and permanence under examination are common properties of both. While, then, the sensible qualities of objects admit readily of being brought to the test of presentation, from which there is no appeal, it is on the other hand the common property of emotions and conclusions of reasoning about representations that they are liable to contain error, from being founded on an imperfect acquaintance with the phenomena which they belong to or are concerned with. Hence only some of them are true and permanent, and the progress of enquiry eliminates the untrue or partially true, establishes and discovers the true. In the case of emotions, the laws which determine their truth or their permanence are also laws of their connection with their representational framework, just as, in the case of conclusions of reasoning, these laws are the laws of the connection of the represented phenomena between themselves. The laws which govern the connection of emotions with their representational framework, which bind them up together, or rather determine how they are bound up, what emotion with what framework, these laws must be discovered, in the first instance, by analysis of the emotional states into emotion and framework; and this will give the first hypothesis or sketched theory, which must be afterwards tested by facts of experience.

§ 15. 1. Before proceeding however to the analysis of the emotions it is requisite to examine briefly the work of one of the greatest intellects ever yet employed on these questions, so far at least as may be necessary to show why the analysis offered in that work is unacceptable to the student at the pre-
sent day. I mean the immortal Spinoza. I cannot allow either that his analysis is correct, so as to serve for the basis of present or future labours, or that its failure involves the failure of the metaphysical method; though one or other of these views would possibly be welcomed by many with eagerness. That Spinoza may have had as profound an insight into the characters of the several emotions and passions as we can easily imagine attainable by any one, no one will more readily admit than I; but he did not owe this to his deduction of them from the first principles of his system. It is in vain to attempt to change a science of observation into a science of deduction merely by exhibiting the results of observation as deductions, by a mathematical method, from certain definitions, postulates, and axioms; for these first principles will always be mere expressions for the general results of the observations, and will need interpreting by them. Let any one take the Definitions of the First Part of Spinoza’s Ethic, and he will find them vague to so great an extent that he will say to himself, ‘What does he mean by this, and this? I must see what he makes of it before I can assent to it.’ Now in Euclid the definitions need no such future interpretation; they are as clear as if they were the statements of single and particular facts, while they are also the most general truths; and this they owe to the object-matter with which they deal, namely, space relations, space being not only the general form of all extended things and of reasoning itself, but also of every individual extended thing; and both in its first intention, as perceived space.

2. Now it may seem an extraordinary assertion,
but the first objection which I have to bring against Spinoza is this, that he is not sufficiently metaphysical. He objects it is true to Descartes, that he separated Body and Mind; Ethic, Part v. Præfatio, "Quid quæso? per Mentis, et Corporis unionem intelligit? quem, inquam, clarum et distinctum conceptum habet cogitationis arctissimè unitæ cuidam quantitatis portiuncula? vellem sanè, ut hanc unionem per proximam suam causam explicuisset. Sed ille Mentem à Corpore adeò distinctam conceperat, ut nec hujus unionis, nec ipsius Mentis ullam singularem causam assignare potuerit; sed necesse ipsi fuerit, ad causam totius Universi, hoc est, ad Deum recurrere." But how does Spinoza himself conceive this union of mind and body? As consisting in the perception of body by mind, in the same way as one state of mind is united to another when it is remembered or represented; Prop. 11. 21. Part ii.; in itself a profound conception, and the germ of all future metaphysical truth; I mean that the mode of connection, perception, not the distinction of the things connected, is a profound conception. But to return. The states of the body form one connected series of cause and effect, and the states of mind, ideas as Spinoza calls them, form another connected series perceiving the former; and "the order and connexion of the ideas is the same as the order and connexion of the things," Prop. 7. Part ii. We have therefore two parallel series of states, states of mind and states of body, separate in themselves but united in the fact of perception of one by the other. Body and mind are still sundered first to be united afterwards, just as with Descartes. To use my phraseology, they are two complete or empirical things,
side by side, not, as I conceive them, one complete empirical thing, with its single series, but with a double aspect objective and subjective. This is what I mean by saying that Spinoza is not sufficiently metaphysical. He is in fact an Ontologist, and only differs from the current ontology of psychological schools by conceiving his two existences, mind and body, as attributes of a single substance, the essence of which the attributes express in determinate modes.

3. Let us now trace this vein of thought back to its professed source in the definitions and axioms of the First Part of the Ethic; by doing which we shall see that there lies hid in them the assumption of a separation between empirical objects, which only comes to light in the conclusions professedly deduced from them; we shall only know what he means by "attributes" when we find that extension and consciousness (cogitatio) are what he has in his mind. Prop. 2. Part iii. runs thus: "The body can neither determine the mind to be conscious (ad cogitandum) nor the mind the body to motion or to rest, or to anything else, if anything else there be." This rests upon Prop. 6. Part ii., "The modes of any attribute have God as their cause so far only as he is considered under that attribute of which they are modes, and not under any other attribute." Taking body and mind as belonging each to its own attribute, this proposition gives the general law under which the former was a case. Now this proposition has two roots; the first is Prop. 10. Part i., "Every single attribute of one substance must be conceived by itself alone;" and the second, which brings the notion of cause into the matter, is Axiom 4. Part i., "The knowledge of an effect depends on the knowledge of
its cause and involves it." I will not at present discuss this axiom, but, assuming its validity, go to the first root of the demonstration. Turning back then to Prop. 10. Part i., we find that it rests on Def. 4 and 3. Part i. Def. 4 runs, "By an attribute I understand that which the intellect perceives of a substance, as if constituting its essence;" and Def. 3, "By a substance I understand that which is self-contained (in se) and is conceived by itself alone (per se); i.e. that, the conception of which stands in no need of the conception of anything else from which it should be formed." His reasoning is: since each attribute is perceived as constituting the essence of its substance, and substance is conceived as being itself alone, therefore each attribute is conceived by itself alone; a piece of reasoning which, undeniable as it is, I venture to think neither Spinoza nor anyone else would have constructed out of his Defs. 3 and 4, so vague and unexplained are these statements, unless he had previously pitched upon some phenomena, in this case body and mind, extension and consciousness; had conceived them first as separate phenomena; and had formed his definitions of attribute and substance to suit that conception. The real key to Spinoza's system I therefore consider to lurk in the 5th Axiom of the 2d Part: "Nullas res singulares præter corpora, et cogitandi modos, sentimus, nec percpimus;"—"We neither feel nor perceive any individual things except bodies and modes of consciousness." This however is precisely the point to which I take exception. It involves a distinction between phenomena which is not an ultimate one; and, in making a statement which is undeniable, if taken without reference to the ultimate validity of
that distinction,—since all things may be considered as either bodies or modes of consciousness, and the distinction is exhaustive if not ultimate—it tacitly assumes that ultimate validity in adopting extension and consciousness as the objects of discussion. The propriety of dividing knowable phenomena into bodies and modes of consciousness, instead of into other categories, is the very thing which ought to be shown. As with others so with Spinoza, everything must rest ultimately on analysis; only a true analysis can be the foundation of a true system. His conception of substance and attribute thus becomes otiose for scientific explanation of phenomena, adding nothing to our knowledge of what extension and consciousness are, nor of how they arise. His real ultimates are the independent attributes themselves; and his Substance, Causa Sui, is a mere hypostasising of the connection between them, a doubling of the phenomena in order to account for them, instead of taking them simply as inseparable phenomena, or, as I should say, aspects of each other; a proceeding rendered logically necessary, though involving also logically a processus in infinitum, by his having begun by regarding the attributes as independent existences. His ontology is only more respectable than the current psychological ontology, because it endeavours to unite in a single conception the two orders of phenomena, mental and physical, which others are content to leave as independent ultimate facts. The conclusion, then, which I draw from the foregoing remarks is, that we are not precluded by Spinoza's mathematical demonstration from examining the phenomena for themselves, and seeing whether mind and body are such separate empirical phenomena as he
professes to demonstrate that they are; whether they do not rather force us to interpret them, not as two parallel series proceeding from a single transcendent cause, but as a single series of phenomena, with a double but inseparable aspect, objective and subjective. For the science is one of observation and analysis of perceived objects, not of deduction from definitely known and admitted principles; and the definitions and axioms of Spinoza are necessarily suspended on the facts of immediate observation which they express in general terms, in words of second intention, as I should say; and cannot have the facts suspended on them, as is the case in geometry, as if they were themselves facts of immediate certainty expressed in words of first intention.

4. The next thing which it is necessary to prove against Spinoza is, that his analysis of man into mind and body, in the Corollary to Prop. 13. Part ii., "Hence it follows that man consists of Mind and Body, and that the human body exists as we feel it to do (prout ipsum sentimus)," is an analysis not pushed to its furthest limits. The proof that nothing else than body, that is, the body which the mind inhabits, and the changes or modifications (affectiones) which it undergoes from bodies external to it, is the object of the mind, contained in Prop. 13. to which this Corollary belongs, depends upon Axiom 5. Part II., "We neither feel nor perceive any individual things (res singulares) except bodies and modes of consciousness (cogitandi modos)." But it clearly does not follow from this that the only object of the mind is body, and not some mode or modes of consciousness, unless in the term mind we first include all its modes of consciousness, and then
exclude all bodies and affections of bodies; in other words, unless we assume that bodies cannot be analysed into modes of consciousness, but that the separation between bodies and modes of consciousness is a datum of ultimate analysis. This assumption seems tacitly made by Spinoza; and yet it is an erroneous one, since bodies are capable of analysis into feelings of sight and touch in the same portion of space, as I have endeavoured to show above, and also in “Time and Space” § 18. Spinoza assumes body to be one thing and mind another; body to be the object of mind; and each of them to be irreducible into the other. This is an assumption which it is impossible to grant since the time of Berkeley, who pushed the analysis of body to a much further point.

5. In the next place I proceed to give a very brief statement of Spinoza’s theory of presentations and representations, to call them by the names which I adopt for them. His views about them are deduced from what has been already explained about the relation of mind and body. It is to presentations that Prop. 19, Part ii. is to be referred: “The human mind has no knowledge of the human body, nor is aware of its existence, except through the ideas of the affections with which the body is affected.” By these “ideas” I understand Spinoza to mean what we call sensations or perceptions of sense; subjectively there are these perceptions, objectively there are changes or modifications of the body by bodies external to it; but these bodily changes are not with Spinoza causes of the perceptions; they are their objects, simultaneous, and proceeding in an exactly parallel order with the changes of perception; the
bodily changes are the thing perceived, the "ideas" are the mind perceiving them. Prop. 22, Part ii. proceeds to representations: "The human mind not only perceives the affections of the body, but also perceives ideas of these affections." That is to say, it has ideas of ideas, representations of presentations.

6. This view of the matter follows strictly from the view already taken of the relation of mind and body, and consequently can be disproved only by first disproving that view, which it has been above attempted to do. The disproof consists in showing, as above, that we do not perceive bodies, either our own or bodies external to it, until we have first had perceptions of sight and touch, and, secondly, combined them into composite objects in three dimensions of space; whereas Spinoza assumes, without proof, that such composite objects in three dimensions of space, that is to say, bodies, are the first, and in analysis the ultimate, objects of perception. But that Spinoza's account of presentation is erroneous in itself, apart from the premises on which it rests, may be shown by considering it apart from them. Thus, when we see a visible and tangible object, Spinoza holds that what we see is the change produced in our body by the impact of the body external to ours; but the fact is, that this change is not seen or perceived at all in seeing the object; the bodily change is not the object seen or perceived. There are three things where Spinoza only admits two; there is, 1st, the "idea" or perception in the mind; 2nd, the object seen in space; 3rd, the changes produced in the body by the object seen, before or at any rate while it is seen. These changes are never seen themselves,
but always inferred by a subsequent act or state of consciousness; and the same holds good of all the senses as well as of sight. Spinoza runs together into one the object seen and the bodily changes inferred; whereas it is only the effects of these bodily changes that are seen, and seen as the object of sight; and he substitutes for the object, which he sees, the bodily change which he infers, calling this bodily change the object of sight, and asserting that it is simultaneous, and part of a parallel order, with the subjective perception, as indeed the object properly so called is. Representations have then, in the next place, the same nature, inasmuch as they are “ideas of ideas” of bodily changes; but since it is true that they are “ideas of ideas,” or in other words repetitions of presentations, it follows that they have not these bodily changes for their causes, because the “ideas” which they represent have not. They may, however, have bodily changes preceding or accompanying them, unperceived at the time but inferred afterwards, just as the presentative ideas have.

7. It may be thought impossible that the difference between the object seen, or otherwise felt, and the bodily changes causing this effect of perception should altogether have escaped Spinoza. Nor did it entirely escape him; he was aware of a difficulty, and sought means to avoid it. He applied for this purpose his distinction between adequate and inadequate knowledge, exact and confused ideas. He could not entirely shake off his own inference, his own knowledge, that changes in the body accompanied changes in perception, especially when supported by his assumption that bodies were the ultimate ob-
jects; but at the same time he was aware that he knew very little of these bodily changes, in spite of the constant perceptions of them which life consists of. Drawing the line therefore, as he did, between bodies on the one hand and states of consciousness on the other, he entirely omitted the analysis of the states of consciousness as such, and then maintained that we had only inadequate and confused ideas of the bodies and bodily changes, and of the ideas of these ideas, that is to say, of the true nature both of the body and of the mind. See Prop. 24 to 29, Part ii. inclusive. His theory compelled him to maintain that we have some knowledge of the human body in the moment of perception, and not only this but some knowledge of everything that takes place in it, in that moment, for “nihil in eo corpore poterit contingere quod à Mente non perciatur,” as he says in Prop. 12, Part ii.;* but the whole and every part of this knowledge may be very confused; exact and adequate knowledge to God, but confused and inadequate to us. This mode of escape seems extremely plausible, as we read it in the masterly deduction of Spinoza; but the conception of the knowledge of the bodily changes being confused and inadequate is untenable in the face of the facts, that there is no knowledge of them at all in the moment of perception, and that, when we have attained the knowledge by inference, it is not confused knowledge, though it may be inadequate, but clear and exact so far as it goes. The bodily changes must accordingly be conceived as conditions preceding and causing the perceptions, both presentative and representative; and the objective aspects of these perceptions as their inseparable and simultaneous objects.
8. We are now in a position to examine the foundations of Spinoza's theory of the emotions and passions, which was the purpose of undertaking the foregoing enquiry. In order to deduce the emotions Spinoza takes new ground at the beginning of Part iii. of the Ethic, namely, "Prop. 4. Nothing can be destroyed except by a cause external to it.—Demonstration."—This proposition is evident of itself; for the definition of each and every thing affirms, but not denies, the essence of the thing itself; or posits (ponit) but does not take away (tollit) its essence. And thus while we attend to the thing itself alone, and not to external causes, we shall be able to find nothing in it which is able to destroy it. Q. E. D."

Now, on this I remark that the term essence, essen-
tia, contains an ambiguity which covers the tran-
sition from the assertion of what the thing is to the assertion that it actually exists. Essence must be distinguished from existence, the nature of a thing from its genesis, the logical definition from the historical existence. And we may affirm the essence of a thing to be so and so, having then before us what I have called in § 13 its bare existence, without either affirming or denying its existence as a fact of history. When, therefore, Spinoza says, "we shall be able to find nothing in it which is able to destroy it," he ought to have added 'or to produce it.' The importance of this will be seen as we proceed.

9. "Prop. 5. Things are so far forth contrary in nature, that is, unable to exist in the same subject, as one is able to destroy the other.—Demonstration.—For if they could agree, or be together in the same subject, then something could be found in the same
subject which could destroy it, which (by preceding Prop.) is absurd."

"Prop. 6. Each and every thing, so far as in it lies, endeavours to persevere in its own existence (esse).—Demonstration.—For individual things are modes in which God's attributes are expressed in a certain and determinate way, (by Coroll. Prop. 25. Part i.) that is, (by Prop. 34. Part i.) things which express in a certain and determinate way the power of God, by which God exists and acts; nor does anything contain in itself anything by which it can be destroyed, or which takes away its existence (existentiam tollat) (by Prop. 4). But on the contrary is opposed to everything which can take away its existence (existentiam) (by preceding Prop.), and thus, as much as it can and as lies in it, endeavours to persevere in its own existence (esse). Q. E. D." In other words, from the circumstance of the logical definition of a thing not including a negation of it, combined with a reference of each thing to the power of God, the Substantia assumed at the beginning, he infers a constant endeavour, on the part of each individual thing, to persist in existence against other things which are not included in its definition. Here is the use which Spinoza makes of his reduplication of phenomena into cause and effect, substance and attribute; the reduplication conceals the assumption of a vast fund of Power.

10. These remarks may be thought unimportant, since it is clear that, whatever the explanation, individual things do persist in existence, and are promotive or destructive of the existence of each other. But there is a more important ambiguity introduced for the first time in the Prop. last quoted, consisting
in the use of the word conatur, endeavours. Admitting, as we must, the fact of continued existence of things in time, we do not imply by this that any sense of effort, or sense of struggle for existence, is involved in it. This conception is introduced solely by its being, in consequence of our association and use of language, attached to the term conatus. Yet it is this surreptitious meaning of conatus upon which all the subsequent reasoning, deducing the emotions, depends. For Spinoza, after showing in the three subsequent Propositions that the mind, inasmuch as it is conscious of itself (and this being conscious of itself is the nerve of the argument), by means of ideas of affections of the body, is conscious of its own conatus, adds the following Scholium: “This conatus, when it is referred to the Mind alone, is called Will (voluntas); but when referred to Mind and Body at once, is called Appetite, which accordingly is nothing else than the very essence of the man, from whose nature those things which contribute to his own preservation necessarily follow; and thus the man is determined to do the same. Next, there is no difference between appetite and desire (cupiditas) except that desire is usually referred to men so far forth as they are conscious of their own appetite, and therefore can be thus defined—Desire is appetite with consciousness of it. It is evident then from all this that we endeavour, will, seek, and desire nothing because we judge it to be good, but that on the contrary we judge that anything is good because we endeavour, will, seek, and desire it.”

11. Now if there is no sense of effort in the conatus itself;—and we are not entitled by Spinoza’s deduction to suppose that there is,—there is none in