

table, the first and last may be taken, and the intermediate series omitted; as,

First Series.—1 + 5? 6 + 5? 11 + 5? 16 + 5? &c., up to 41 + 5?

Fifth Series.—5 + 5? 10 + 5? 15 + 5? 20 + 5? &c., up to ten additions.

The Second, Third, and Fourth Series being omitted. If there is sufficient time, however, it is better to include all. It is quite important that the last series with each number, in which the number itself is repeated, should always be included, as this has an important bearing on multiplication?

BENEKE'S PSYCHOLOGY.

SECTION IV.—(Continued.)

I SHAW you a plant; at once your seeing faculties begin to reach towards the stimulating influences of light which go out from the plant; these influences and the original faculties combine, and you say, "I see the plant."

A starling is singing his merry song on a tree. Your hearing faculties go out in that direction, and when these combine with the stimuli proceeding from the starling, you say, "I hear the starling."

Which of these two sorts of paper is the smoother? You go over both with the points of your fingers until your faculties of touch have sufficiently combined with the soft stimuli of the paper, and then you say, "I find by touch that this sort is the smoother of the two."

Here you have a piece of sugar. As soon as you lay it on your tongue, and it begins to dissolve, a combination takes place between its stimuli and the faculties of taste, and you say, "I taste the sugar."

I hold a violet before your nose, you bend over it till your faculties of smell combine with the ascending fragrance (stimuli) of the violet. When this is done, you say, "I smell the violet."

Take a nettle in your hand. Instantly there is a combination of your powers of feeling and the stimuli from the nettle, and you say, "I feel the nettle."

Instead of the expressions to see, to hear, to touch, to taste, smell, &c., we say also, to feel and to perceive; and because this is done by means of the senses (the original faculties) we give these feelings the general name of sensuous perceptions.

A sensuous feeling and perception takes place, as we have just seen, when the stimulating influences of the external world enter into combination with the original faculties of the soul, and hence we affirm: sensuous feelings and perceptions are formed by the human soul in consequence of impressions or impulses which come to it from without.

SECTION V.—Concerning the Susceptibility of the Original Faculties to outward Stimuli.

There are persons who, the instant a sound is heard, be it ever so soft, perceive and distinguish it, while other persons beside them do not hear it at all.

Some persons can discover by touch the slightest inequality in a smooth object, while others can perceive nothing of it. Some are extremely susceptible to cold and heat and noises while to others the same things cause not the slightest annoyance.

To some persons certain odours cause fainting, while the same stimuli are conveyed to others without in the least affecting them.

Some persons perceive the least ingredient of spice in their food, others find a large quantity only a pleasant addition.

Some persons notice by sight the smallest objects, while others pass by them as if blind, even when their minds are not otherwise occupied. The animal world offers many instances of this. Who has not noticed the quick eye of the hen, the fine ear of the cat, the keen scent of the fox and the dog?

The conclusion we arrive at from all this is as follows: The original faculties are not all of the same quality. In one man the faculties of seeing, for example, are so susceptible to the admission of external influences, that even the smallest of these have power to lay hold of and unite with his seeing faculties; while in regard to another man, a much stronger stimulus must be present, if his seeing faculties are to appropriate it. The hearing faculties, however, of the first may possibly be much less acute than those of the latter, and so through all the other senses. Now in whatever measure the original faculties of any individual in any one of his senses are fitted or susceptible to the appropriation of external stimuli, in that measure we ascribe to him a greater or less degree of susceptibility; this susceptibility is not something in addition to the original faculties, it is merely a property of these. The single powers of one and the same sense do not differ in this way, so that in me, for example, one hearing faculty should possess much and another little susceptibility to external influences. The distinction extends over all the faculties only as a class. Each sense is a united whole, or class (a system) of individual faculties identical with each other, and this is what we mean when we speak of systems of the faculties, or systems of the senses. These systems differ from one another in the quality first described, and also in other qualities.

SECTION VI.—Trace or Impression (Spur.)

To-day I shew you a flower which you have never before seen. Your original faculties will (as always happens when you see

anything) immediately unite with the light stimuli proceeding from the flower; and the result of this will be, that if I should to-morrow question you about the same flower, you would have a distinct recollection of it, whilst another, who has not seen it, will know nothing at all about it. The same thing will take place if I should sing over a little song to you, or should give you some aromatic spice to taste and smell, or should make you touch or feel any particular object. Now how does all this take place? It must surely be at the stimulating influences which proceeded from all the different objects I have named, and combined with your original faculties, have remained behind in these faculties *i. e.* in the soul! This must not, however, be understood as if the particles of light, air, and scent continued to exist of themselves, or independently in the soul, as they did formerly in the external world; on the contrary, they have now subordinated themselves to the original faculties by which they have been appropriated, and by this means have become constituent parts, *i. e.* psychological elements, of the soul. How this takes place without the introduction of the element of matter into the spiritual soul shall be explained hereafter.

It is through this appropriation of outward stimuli that the original faculties attain their destined growth, formation, and development, which corresponds to the external object, acting upon them, because this object is now represented as if mirrored within them; and thus it is that you are able inwardly to image the object, or, as we say, remember it, although no further stimuli pass from it into your soul because you no longer either see or hear it, while this cannot be done by one which has never received into his original faculties any stimuli from the object.

Were either these faculties to be lost as soon as you ceased to think on the object that had been presented to you, or were the stimulating influences which have combined with them, again to disappear altogether, then this power of recalling objects would be impossible. But only a small part of the stimuli disappear, and the faculties can in no case be torn from the soul, they in fact constitute the soul; and thus, although the newly acquired product may indeed become unconscious, yet the stimulus once laid hold of, and the original faculties continue to exist in their mutual combination, and with this newly formed power, you are able to reproduce an object as distinctly before your mind, as if you perceived it externally, although nothing more has taken place, except that faculties which had lapsed into unconsciousness have again resumed consciousness.

No explanation is needed of the fact of this continuance, for it is manifest of itself, that what is once firmly brought into connection, must continue to exist in the same connection, until by some sufficient cause the connection should be dissolved, and this dissolution, as we shall see, probably never takes place; so the improved powers cannot again lose their acquired substance, although lapsing into unconsciousness, it seems to disappear. The only question is this, How is consciousness withdrawn, and by what means is it again attained? The answer to this we shall consider hereafter.

So far we have seen that the original faculties and their formations or acquisitions continue to exist even when they have lapsed into unconsciousness, and do not in their unconscious state at all lose the objective formation or development which they have acquired. They have only, as we shall see, lost the stimulating cause, and hence consciousness, which can only assert itself when stimulated, is for the time extinguished, or as it were, comes to a pause, until under some new excitement of the faculties it is waked up to new life.

Our conclusion may be briefly expressed thus: From each operation of external stimuli on the original faculties (*if effected with some measure of completeness*), a trace or residuum is left behind in the human soul. Each such trace has within it a twofold element. The attraction of itself, or alone, never forms a trace, there is implied in this word the original faculty itself, in its connection with some stimulus received and retained. These traces are accordingly the original faculties, plus their new grades of growth.

In addition to this we must remark, that it is not merely the original faculties as developed by external stimulants which continue to exist as traces, but that this takes place in regard to everything, of whatever nature, which has been formed with any degree of completeness in the human soul; and we shall see, as we pursue this subject, that many traces owe their existence to other acts of the soul.

Further, in common language this word "trace" signifies generally, merely a small remnant of something that has been a memorial by which we recognise the existence of a something past, but which we cannot restore. You think, for instance, of ashes as the trace or memorial of a fire which has been in that place where the trace is left, but we cannot, by means of this trace, rekindle the fire. On the other hand, in mental science the word trace has a fuller signification, inasmuch as here it always indicates a product in which what has once been, still remains, though latent, because its factors have been more or less preserved, so that, according to the measure of their preservation, the act can be internally repeated. How long shall such traces be retained in the soul? No definite reply can be given to this question, but this much appears clear, unless some special cause should be interposed to remove or transform them, they must continue to exist as long as the soul exists. Many remarkable examples are on record of the tenacity of impressions once formed in the human soul. Dr. Reid, in his treatise on fevers, gives an account of a peasant who, in the height of fever, declaimed, without hesitation, Greek verses. After his recovery he