THE APPLICATION OF PSYCHOLOGY
TO THE
SCIENCE OF EDUCATION

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SCIENCE OF EDUCATION

BY

JOHANN FRIEDRICH HERBART

Translated and Edited

WITH NOTES
AND AN INTRODUCTION TO THE STUDY OF HERBART

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PREFACE

WHAT do we owe to Herbart, and what is the secret of the strange fascination which he exercises over the educational thinkers of to-day in Germany and America, and by which England is not altogether untouched?

Two things are usually cited as the legacy we owe to him:—

1. Clearer views on the doctrine of apperception. As his predecessor Kant, in opposition to the sensational school of Locke and Hume, insisted on the necessary forms of thought, so has Herbart insisted on the importance of the subjective in every apperception, shown how every conception is modified by all precedent experience, by the "content" of the perceiving soul.

2. He has insisted on the unity of the Subject, protesting against the mode of regarding the soul as a collective noun, consisting of many faculties. Herbart fixes our attention on the One rather than on the Many. He deprecates all the one-sided developments which mar the completeness of character.

As we study his psychology, however, we find there

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is much that will not fit into our universe of thought. The great advance in science, especially in physiological science, has much enlarged our knowledge of the relation of the mind to the body, and we think at first that it is impossible for us to follow him, or benefit by his teaching.

But before we can understand Herbart, we have to transport ourselves into a different thought-world. As we cannot read Dante or Milton without a clear vision of their cosmos, so neither can we follow the psychology of Herbart without translating our conceptions into the language of his thought; and then, though his poetic figures are not ours, yet the truths expressed are brought vividly before us by his imagery.

Taught by him, we learn to think of ideas not as merely objective to the Ego, and of the Ego by a dialectic process selecting the ideas, and assigning their functions by the laws of logic; we also think of them as active powers, the living offspring of the thinker. We learn from him to think of the Ego building up itself by constantly adding fresh contents; as giving birth to conceptions, ideas, which become in some sense real entities, an active environment dominating the Ego, and in relation with which the Ego comes to know itself; one is reminded of Kant's words: "Der Mensch macht die Natur." Thus, at the basis of Herbart's system, lies the doctrine of apperception, and we have to think of these ideas as forming, for good or evil, the character of the Ego. At first, as we read

about his ideas—objective as those of Plato—meeting, contending, suppressing, attracting one another;—as we study what he calls mathematical psychology, we feel as if we had gone back to an old-world mythology, entered some Egyptian temple, where we see flitting about mythological ghosts called ideas, which rise and fall, contend and suppress one another, "vault" and "taper." These materialised conceptions remind us of the sprites of the poets, which come into the dream-world with their suggestions; but as we reflect, and look into the darkness, we find this language of poetry does express for us truths of experience. That which we have received into the body of our thought does live in us, helping us to form each new conception—rising unbidden, by the laws of association, suppressing other thoughts which we are striving to evoke, passing below the "threshold of consciousness" into the darkness, where we yet feel that it is, though we cannot always call it up; and so we read on, and find that the hieroglyphs of Herbart express for us in mystic language truths of daily experience, truths which religion, too, affirms, and which are full of significance for the educator. Ideas do seem to have an inherent vitality to present themselves unbidden, and, if once received, to present themselves again and again, fitting themselves into the soul environment, which is our intellectual and moral universe. And when we linger on, and seek to penetrate further into these mysteries, we begin to see that Herbart's *A B C*

of Sense Perception and his *Æsthetic Revelation of the Universe* bridge over the opposition between the Pure and Practical Reason.

There is much too, to attract us in Herbart's imaginative power. We find in him the intellectual subtlety of Kant combined with the enthusiasm of Fichte, and giving form to the practical philanthropy of Pestalozzi.[1] We feel our intellectual and moral life quickened, though we may not be able to live altogether in his intellectual universe. The teacher, as he dwells upon the psychology of Herbart, learns to recognise more and more its pedagogical and ethical value. In the region of thought the disciple of Herbart will not be content till ideas have taken definite, clear shape for the pupil. He will know that to see clearly we must look intently; so he will first of all awaken interest, he will associate each new thought with the already existing mental content, and group all round a centre.

But he will not be satisfied with mere knowledge—pure reason; thought is to give form to desire, and desire pass over to action, and energise the will. The moral self is the harmonizing unity which correlates, supplements, formulates all that is given in sense, which, brooding on the objective vision, gives it a subjective life, so that it reacts upon its maker.

And then we cannot but ask, as educators, if indeed

[1] It is just a century ago, 1797, that the first meeting took place between Herbart and Pestalozzi.

we are each of us helping those whom we influence to apperceive "the Æsthetic Revelation" of the world, which is ever being made to the individual and to the race, widening the horizons of those who love the light, and making for righteousness. The revelation is ever being made through sense and through sympathy with kindred souls, not only in the present, but in the records of the past, in the history and sacred literature of the world. It is ours to see that our children's minds are furnished with things pure and lovely, with noble ideals, above all, with the vision of the ideal, the perfect manhood, the fullest revelation of the Divine.

Herbart has carried on the work of Kant in several directions. Kant showed us that the Ego must furnish the forms of thought by which the energy communicated through sense becomes an objective conception, an idea; so Herbart has insisted that every act of apperception is the outcome of the subjective energy, giving form to sensation. Kant so changed the conditions of thought, that we see no longer a meaning in the question whether there is a boundary to space and time; his life was too short to work out fully the problems of Practical Reason which he suggested. Herbart entered into his labours, and the moral self formed the chief subject of his observations.

It would be contrary to the spirit of the Master if we adopted his system as a complete whole. It is because we think Herbart has laid a good foundation

that we desire educators should enter into his thought and build on it, and the proof that it is based on truth is, that several schools have been built upon these foundations.

The "methods of concentration" adopted by some of his followers may seem to us fanciful and futile; they were an advance on mere conglomerate methods, which he so much condemns; there are, what I may perhaps call organic methods, which commend themselves more to the leaders of thought now; but these are not out of harmony with Herbart's principles.

The enormous progress made in physiological psychology by means of histological research, especially the valuable and important work initiated by Dr. Stanley Hall at the Clarke University, has shown how large is the field for exploration; and the more the true theory of apperception is studied, the more apparent will become the marvellous adaptation of the intelligence of man to the intelligible universe, the more the relation of the individual to the universal. This book of familiar and explanatory letters will help some perhaps to a fuller insight into the teaching of Herbart, than can be attained by the study of only formal treatises.

The question often suggested itself to the translator, whether that only should be given, which seemed to fit into our schemes of thought to-day. But in the midst of much that appears valueless to us now, there were to be found suggestive thoughts which could not stand

apart from the context, and it was finally decided to give the letters as Herbart wrote them, and let readers judge for themselves.

With Miss Mulliner's comments and explanations, this volume will, I hope, form a useful book for those who come to it with a sufficient equipment of philosophical ideas. The work of translation has been a difficult one, and it has been thought best to keep close to the text, even at some sacrifice of English idiomatic structure. I am persuaded, however, that no complete translation into another language, of systems of thought elaborated in Germany, is possible for those who are unfamiliar with the language and literature of that country.

We must have, so to speak, a "native ministry.' The German thought-environment is different from ours, and numberless allusions to what is supposed to be known, escape us. America has given us valuable translations and elucidations. I may mention especially the works of De Garmo and Ufer, and Lange and Eckoff, and we have an English translation by Felkin of the *Science of Education*. We want, not translators only, but English psychologists and philosophers to naturalise the best thoughts of educational thinkers of the world, translate them, not into our language only, but into our forms of thought, adapt them to our environment. Our philosophy and our religion grow from one root. As the old poem expressed it, there grew in the midst of the garden the tree with its two branches,

the tree of life, and the tree of the knowledge of good and evil.

Not until we have chairs such as those occupied by Kant and Herbart, Rosencranz and Fichte and Lotze, can we hope, that men with such powers of thought, will be able to find the leisure and intellectual surroundings which will make it possible for them to accomplish this work for us. Such a literature is beginning to go up in Scotland and England. We have Ward and Laurie, and Sully and Findlay, but we are far behind America and Germany.

The tide against which many of us have been rowing has at last turned; the old empiricism, which declared there was no such thing as a science and philosophy of education, speaks no longer with so loud a voice; the demand for thoughtful works is increasing, and will increase, and then precious time will be saved, and minds and wills will be better disciplined, and we shall realise more that the knowledge of the truth, and obedience to God's law, is perfect freedom.

TRANSLATOR'S PREFACE

AFTER the publication of his great series of works on mental and moral science, Herbart might well have thought that he had discharged for ever his debt to psychology. But his keen interest in education, and the desire to make scientific use of the practical experience gained in his school at Königsberg, induced him to resume his psychological studies. The result was the work before us. The *Letters on the Application of Psychology to the Science of Education* were addressed to Friedrich Karl Griepenkerl, a friend of many years' standing, who had been engaged in practical educational work with Fellenberg at Hofwyl, and now held the post of Professor at Carolina in Braunschweig. Unfortunately the letters are unfinished. Herbart discontinued the work when his removal from Königsberg to Göttingen, and the consequent closing of his school, deprived him of the field of experience whence it had grown. That he had quite given up the idea of its completion and publication is clear from the fact that he has used whole passages from it elsewhere, especially in the second edition of his *Text-Book of Psychology*.

Of the existing thirty-five letters the three first form the Introduction, in which, after stating their object, Herbart brings out briefly the nature and threefold task of psychological education; then, after otherwise expressing satisfaction with the improvement in schools since the beginning of the century, he deplores the neglect of the necessary study of the individual capacity of the pupil, and insists on the necessity of home training, as contrasted with the form of State education desired by Fichte. The remaining thirty-two letters deal with *the many-sided individual capacity for culture in the pupil.* This is demonstrated both as regards "Innate Differences" (Letters iv.–xxix.) and "Differences which are acquired" (Letters xxx.–xxxv.). The former may be divided thus: differences of a purely psychological kind, iv.–ix.; those which concern physiology and psychology, x.–xiii.; the purely psychological, xiv.–xxix.

The translator would specially thank Miss Beale, not only for unvarying kindness and help throughout the progress of the work, but also for her valuable Preface, showing the importance of the study of Herbart in England.

Many thanks are also due to Dr. Rein, of Jena, for information and assistance with regard to difficult points in Herbartian theory.

The translator would take this opportunity of expressing her gratitude to Miss Rose Seaton and Miss Lupton, of the Ladies' College, Cheltenham, without

whose kind aid a somewhat laborious task would scarcely have been possible.

Many thanks are also due to Mr. Sydney Herbert for the illustrations of the culture epochs, and to Fraulein Clara Burz, of Bonn, for her careful revision of the translation.

B. C. M.

THE LADIES' COLLEGE, CHELTENHAM.
November, 1897.

ANALYSIS OF THE LETTERS

Introductory . . . . Letters i.–iii.

The many-sided and individual capacity for culture in the pupil . . . " iv.–xxxv.

Part I.

Innate Differences. . . . . " iv.–xxix.

Section A. Physiological Differences . " iv.–ix.

" B. Physio-Psychological " . " x.–xiii.

" C. Psychological " . " xiv.–xxix.

(i.) Immediate or direct Reproduction.

(ii.) Mediate or indirect Reproduction.

Part II.

Acquired Differences . . . " xxx.–xxxv.

INTRODUCTION TO THE STUDY OF HERBART

CHAPTER I.

HERBART AND HIS SCHOOL.

"Hitherto,
At present (and a weary while to come),
The office of ourselves . . . has been
For the worst of us—to say, they so have seen;
For the better—what it was they saw; *the best*
Impart the gift of seeing to the rest."—Robert Browning.

"There is nothing more divine than Education."—Plato.

JOHANN FRIEDRICH HERBART was born at Oldenburg, in North Germany, on the 4th of May, 1776. His father, Thomas Gerhard Herbart, a lawyer and privy councillor of the town, was a reserved, silent man of somewhat phlegmatic temperament. His mother, Lucie Margarethe Schütte, a woman of remarkable individuality and keen intellect, exercised no small influence on the career of her only child. Regarded by those who did not know her as odd and eccentric, she nevertheless arranged for her son's education with the utmost care. It was she who selected his tutor, took part in his lessons, and learnt Greek herself that she might the better sympathize with his interests. From the first the boy showed extraordinary ability. His retentive memory and

aptitude for mathematics and philosophy were some of the earliest signs of future greatness. The study of Logic begun at eleven years of age, of Metaphysics at twelve, and an original essay on Human Freedom at fourteen, give us a fair idea of the precocious, brilliant child who was destined to occupy not unworthily the chair of Kant at Königsberg. The concluding words of this essay on Freedom show to what an extent the child was father of the man: "It is contrary to all philosophy to reject an argument against which we have nothing to urge."

At Easter, in 1794, Herbart entered the University of Jena, then the centre of the philosophic life of Germany. Nominally he came to study jurisprudence at his father's wish; but the innate bent was too strong, and the youth became the enthusiastic disciple of Fichte, who had just been appointed to the vacant chair of philosophy.

In 1797, through his mother's influence, he left Jena before his course was completed, and became private tutor to the three sons of Herr von Steiger-Reggisberg, Governor of Interlaken. Ludwig, Karl, and Rudolf von Steiger, aged respectively fourteen, ten, and eight years, were left entirely in the hands of the young tutor, their father merely requiring that a letter should be written to him every two months reporting their progress. Karl von Steiger grew up Herbart's devoted friend and disciple.

This very important period came to an end in 1799, when, partly on account of his mother's illness, partly through political considerations, Herbart left Switzerland for Bremen, that he might study philosophy, and thus qualify for a university chair. In 1799 he had visited Pestalozzi at Burgdorf, and from 1801 begins the publication of his various works on philosophy, psychology, and education. A list of the more important of these will be found in Chart I.

In May, 1802, having taken his Doctor's degree, he entered upon academic work at Göttingen, and his lectures and writings on philosophy and education began to attract increasing attention. In 1809, however, he was at last offered the chair of philosophy which Kant had occupied at Königsberg. Here he spent the next twenty-four years of his life in constant intellectual activity, lecturing and writing for an increasing circle of adherents.

One of the chief events in this period is his marriage in 1811 to a young English girl, Mary Drake, whose father, at one time a wealthy merchant, had been almost ruined by the war. The union was a singularly happy one, and the intellectual sympathy and peace which Herbart found in his own home give point to his strong arguments in favour of the maintenance of family ties.

In addition to the publication of a succession of important works on psychology, Herbart carried out in Königsberg his long-cherished plan for the establishment of a training college for teachers, in which students could practically apply the theories learned in the class-room.

The undertaking aroused so much interest, that the Prussian Minister of Education, Wilhelm von Humboldt, authorized him to procure an assistant in his work at a yearly salary of 200 thalers (£30). The pupils were taught for sixteen hours a week by four students. Herbart himself took the mathematical lessons, and the classical course he had devised for the von Steigers was carried out with great success. In 1833 the action of the Government towards the University of Königsberg made Herbart anxious for a sphere of greater freedom, and he accepted the offer of a lectureship at Göttingen. His fame had preceded him, and he had an enthusiastic reception. Eight more years were thus spent in the usual round of

successful university work and the writing of certain important treatises.

Early in August, 1841, though apparently in perfect health, he told a friend, with a strange accent of certainty, that he should not live much longer. On the 9th he gave his usual lectures to the students with all the old power and brilliancy. The next evening he spent with his family, and they specially noticed the cheerful kindliness which of late years had never left him. At three o'clock in the early morning of August 11th, he died almost instantaneously; and a few days later, in the deepest grief, the students carried to the grave the body of their beloved master.

By far the most remarkable feature of Herbart's character was his passion for truth. Faithful to his home, his work, his friends, he was above all faithful to his ideals; and the feeling of his contemporaries, expressed in the lines on the marble cross which marks his tomb, will be shared by the student of his works:

> "Der Wahrheit heil'ge Tiefen zu durchdringen,
> Für Menschen wohl mit Freudigkeit zu ringen,
> War seines Strebens Ziel; nun ruh'hier seine Hülle,
> Nun schaut sein freier Geist des Lichtes Fülle."

He may have erred in some points, he may have failed in others—who has not? But he used faithfully a noble intellect for the good of his fellows, and made ready a path which has been successfully trodden by others. We have entered into his labours; he has passed on to the clearer vision of the truth which he loved.

Such is a brief sketch of the somewhat uneventful life of the author of the Letters.[1]

It is more important for us to inquire into the position which Herbart holds in the world's thought,

[1] Further details will be found in a work by G. A. Hennig (Siegismund and Volkening, Leipzig).

and the claims which his teaching has on our attention at the present moment. A glance at Chart II. will explain the atmosphere of tumult and intellectual restlessness which surrounded the young philosopher.

In 1776 the ill-fated Louis XVI. had been two years on the throne of France, and a reserved boy of inflexible will was growing up in Corsica whose name was Napoleon Bonaparte. In 1789, the year that Herbart became a schoolboy at the Gymnasium of Oldenburg, men were startled by the first thunders of the French Revolution. His last school year was that of the Reign of Terror in France. In 1799, when he began to study philosophy at Bremen, Napoleon became first Consul; and soon after this, out of his small yearly stipend, Herbart was compelled to contribute 1500 francs for war expenses.

In 1806, at the battle of Jena, on the very hill above the University, Napoleon annihilated the Prussian army. Nine years later the cause of Liberty was saved by his crushing defeat at Waterloo.

Such, then, was the Europe of that day, a world indeed of excitement and revolution. Other men were swept away by the current. Fichte, an idealistic philosopher, was the very firebrand of German patriotism. Froebel fought as a soldier in the campaign of 1813 against Napoleon. Pestalozzi was fighting the social misery of the time, for it was he, who, in 1798, after the massacre by the French at Stanz, came to the rescue and gathered the orphans under his care.

Herbart seems to have lived apart from the political turmoil; "the spectres he fought were those of the mind." His life-work was to equip the future leaders of thought, and the environment which really affected him was that of the intellect.

The Chart shows that in 1762 *Émile* had been published by Rousseau; in 1774 the Philanthropinum

had been founded by Basedow; from 1775 to 1780 Pestalozzi was the "saviour of the poor" at Neuhof. Above all, in 1781 a quiet, methodical professor, already past middle age, unexpectedly brought out a new book which has revolutionized the world of philosophy. The writer was Immanuel Kant; the work was *The Critic of Pure Reason.* The result was that almost every chair of philosophy was soon filled by Kantists, and Gottlieb Fichte, Herbart's revered teacher at Jena, was an enthusiastic admirer of "the Sage of Königsberg."

For Herbart's relation to Kant the reader is referred to the Introduction, pp. xxxiii–xxxvii. With regard to the Pestalozzian movement, Professor De Garmo has pointed out that any great reform of this kind is emotional rather than scientific in its early stages. Divine enthusiasm is what moves men long before the time comes for exact and logical thought. Besides, there was no psychology at that time on which Pestalozzi could have founded his system, for Kant had not been able to carry his investigations into the practical side of experience. The Pestalozzian reform, then, had to do with the heart rather than with the head. "Like an impetuous leader with an army before a river, Pestalozzi does not wait to build a bridge, but bids all rush in. Many get over, yet some are lost, and all are wet."[1] A great threefold task was then before Herbart:—

1. He had first to develop a psychology which could be used in the practical problems of teaching.

2. He had to scientifically apply this psychology to education by means of his doctrine of apperception.

3. He had to perfect the work of Pestalozzi by bringing unity into the systems of the past. In a word, he had to give a scientific basis to what had as yet been merely empirical.

[1] De Garmo, *Great Educators*, Herbart, p. 6.

As regards the first, we note the following statement by Professor Ward in the *Encyclopædia Britannica*: "For exactness and penetration of thought Herbart is quite on a level with Hume and Kant. We are most indebted to him for the enormous advance psychology has been enabled to make."

His claim to have accomplished the two last rests on his theory of education which will be discussed later. (See chapter ii.)

In concluding this part of the subject, the question arises, what has been the practical outcome of Herbart's life-work? His own training college for teachers in Königsberg was in existence from 1810 until his departure for Göttingen in 1833. Early in the year 1832 one of his pupils, Heinrich Gustav Brzoska, came to the University of Jena, and in 1836 attracted considerable attention by publishing a book, entitled *The Necessity for a Pedagogical Seminary, and its Proper Organization.* The author's early death in 1839 prevented the carrying out of the undertaking. In his place, however, in the summer of 1843, when the cause of educational training in Jena seemed well-nigh hopeless, a young lecturer, Dr. Karl Volkmar Stoz, came forward with all the enthusiasm of youth, and founded among his students an educational society, which was to combine theoretic discussion with practical exercises. He had himself gone through the theoretical work of the Herbartian school, and his capacity as a practical teacher had been tested in the Benderschen Educational Institute at Weinheim.

The formal opening of the Seminar-School took place on December 9th, 1844. In 1858, the 300th anniversary of the inauguration of the University of Jena, some new buildings were secured, and the name of the Johann Friedrich School was adopted in memory of the great Elector. On the death of Dr. Stoz, on January 23rd, 1885, the activity of the Seminar was

for a time interrupted. But the many difficulties were at last overcome, and the work began again with renewed vigour in October, 1886, under Dr. Rein. Since then the circle of interest has been steadily widening, and the visitors and students at Jena are now gathered from all parts of the world. The spirit of the Seminar is opposed to demanding from anyone slavish imitation or subjection to a set of rules. It prefers to send its members forth on their different paths, that each in his own way may seek truth, and contribute his share towards the solution of the countless problems of education. Its one watchword is:—

"In necessariis unitas,
In dubiis libertas,
In omnibus caritas."

The 130 members of the holiday course held at Jena this year (1897), in August, represented fourteen different nations. Germany took the lead in point of numbers, but England, France, Belgium, America, Norway, Sweden, Australia, Hungary, Switzerland, Denmark, Servia, and even New Zealand, sent representatives to a friendly international conference of an almost unique type. The lectures were on various subjects, including theology, art, literature, and science, but interest seemed to centre round those given by Dr. Rein on the general science of education. Lectures on practical pedagogy, illustrated by specimen lessons to different classes of boys, were delivered by Herr Lehmensick, the head-master of the Jena Practising School. So great was the interest aroused, that Dr. Rein convened a special evening meeting for educational discussion, at which the position of the modern Herbartian school was more clearly defined.[1]

[1] A pilgrimage to Thuringia cannot be too strongly recommended to the students of modern Herbartianism. The educational interest of Jena is increased by the unique surroundings. The quaint mediæval town, with its narrow streets, grey walls, and venerable tower, affords a striking contrast to the modern ways of a holiday course, and this year the past and present seemed indeed to blend in the entertainment given for the first time by English ladies to their fellow-members in the Schiller Garden. The curious survivals of mediæval student-life may also be seen at Jena almost better than in any other German University; amongst these the "Carcer"—where the students suffer a mild imprisonment for trifling misdemeanours, and where they while away the hours by the most remarkable drawing in coloured chalk on wall and ceiling—must not be overlooked.

Once in Thuringia, Eisenach, with its exquisite scenery and important Herbartian school, can be visited. It should be noted that the greatest courtesy is shown to foreigners in these institutions. Visitors are permitted to attend classes, and are given every facility for obtaining information regarding the working and curriculum of the schools.

The Pedagogic Seminar of the University of Jena deserves special notice. Its aim is the development of the Science of Education. It is connected with the Professorship of Pedagogics at the University, and has also a practising school, in which students teach under the direction of the Master of Method. Membership in the Seminar may be of three kinds:—

1. The "Hospitanten," or bye-students, who attend the Professor's lectures, and also any lessons which they like to select in the practising school.

2. Special members, who are expected to take part in the theoretical work, the criticism of lessons, reports of school anniversaries, examinations, expeditions, etc.

3 Ordinary members, who, in addition, undertake to teach some subjects in the practising school for at least a term, subject to the supervision and criticism of the class teacher.

No special period of residence is enforced, but not less than a year is recommended, as otherwise little benefit can be obtained.

As regards the progress of Herbartian principles in other places, Eisenach might be mentioned and its Karolinen Schule for girls. There are some 200 pupils at present in this school, and attached to it is a train-

ing department for women teachers under Director Ackermann. Herbartian training schools also exist in Gotha, Weimar, Schwabach (Nürnberg), Kaiserslautern (Bavaria Palatinate), Karlsruhe (Baden), and Chur (Switzerland). Another thoroughly Herbartian school for girls is that at Altenburg, where there are some 200 pupils under Dr. Karl Juste.

There are also several influential societies in Germany and elsewhere formed with the object of furthering the science of education as explained by Herbart. The following are worthy of notice:—

1. In Vienna, under Dr. Vogt, Professor of the University. This has 650 members, and a fairly extensive literature of its own.

2. In Thuringia, under Professor Rein in Jena; number of members, 350.

3. In the districts about the Rhine and Westphalia, under Rector Horn; number of members, 847.

4. In the United States, under Professor de Garmo, of Swarthmore College; number of members, 2000.

Besides these, many smaller societies exist in various parts of Europe and America, and in the latter especially the movement is very strongly supported.

The following quotation from the preface of Dr. Eckoff's recent translation of Herbart's *A B C of Sense Perception* is worthy of attention:—

"We live in the beginnings of another educational reform—the Herbartian. . . . Many who know our public school system best and love it most are persuaded that Herbartianism is the proper solution for the difficulties of to-day. . . . It is hardly possible to attend an educational gathering of fair pretensions to magnitude or dignity without hearing Herbart's name at least. . . . American educators have begun to live, move, and have their being in an atmosphere of Herbartianism. It is coming to be the pedagogic spirit of the times."

Thus the English student returns from America and Germany fired with fervent enthusiasm for Herbart; and, like a true disciple, thirsting for knowledge at the fountain-head, he invests in the somewhat ponderous works of the great master. He knows Bartolomai's words, "No philosopher has surpassed Herbart in the lucidity of his classic style, or paid more devoted homage to the genius of the German language"; and he has read the preface to the *Levana*, where Jean Paul Richter speaks of Herbart's "exquisite and alluring language." Expectation runs high; the mental appetite is keen. Alas for his feelings! He begins with the two volumes of the pedagogical works and plods patiently through a few pages, but he is stopped at every turn. He thought, perhaps, he knew German, but he rises from Herbart a sadder and a wiser man. There are words used with unusual meanings, psychological terms of peculiar difficulty; involved constructions, which are only the more annoying because their very convolutions suggest that herein lies the pith of the whole argument. Difficulties also of another kind arise. The hapless student with sore labour has mastered a paragraph, and thinks gaily that now the goal is surely in sight. Alas again for his delusion! Herbart remarks in the next paragraph that this particular subject is quite clear from a passage in his philosophical or psychological works, and therefore needs no further explanation now!

"Exquisite and alluring language!" The Englishman wonders whether some hidden analogy exists between mental and physical digestion, and whether the former, like the latter, is more robust in his German brother than in himself! A frank English critic once said even of a translation, "Sit down to it and you are dismayed"; but he also added, "Glance through it, and you are delighted with the wisdom it contains."

It is best to face things as they are. We can never

say Herbart's is an easy, popular style, at least to the English taste. It was said of Kant that when lecturing he kept his eye on some particular student, and judged by his face if the lecture were clear. One is tempted to wish that the blank faces of some of his readers could have haunted Herbart. But we must remember that those readers were not his first care; he wrote in the intervals of leisure in a busy university life, for, and to, men of his own type, who understood his language,—deep-thinking, keenly intellectual German students, disciples of Fichte, and followers of Kant; men who were, perhaps, careless of style, but who were ready for any problem, however abstruse. To such hearers an allusion was sufficient, a rapid transition inspiriting, a lengthy explanation dull. What has been the result? In Königsberg the crowds who attended his lectures could not find room to sit in the auditorium. He died in 1841, but was scarcely more than a name in England till 1892. At the present day the English public is beginning to know Herbart second-hand, *i.e.*, through his modern disciples, for people are content to hear lectures and read "Introductions" and "Reviews" on this subject. But there must be a more excellent way. "Some books," said Bacon, "are to be tasted, others to be swallowed, and some few to be chewed and digested." If we "taste" Herbart we shall probably, like the above-mentioned critic, be delighted with the words of wisdom contained therein; yet we must remember Bacon's further warning, "Some books . . . may be read by deputy, and extracts made of them by others; but that would be only in the less important arguments and the meaner sort of books; else *distilled books are like common distilled waters—flashy things.*"

If we "swallow" Herbart (Bacon presumably meant *whole*), mental indigestion is undoubtedly imminent, at least to the English constitution. The third is really

the only safe plan. But how is it to be done? If we are looking into these writings expecting a new land of promise, where all is distinct and clear and orderly, where the high roads are made, the country mapped out, and the villages classified, we must inevitably be disappointed; and in the work before us Herbart himself warns us against hoping for anything of the kind. But if we are willing to accompany a discoverer who circumnavigates an unfamiliar coast, to use the strong glasses of his intellect to explore dim vistas of beauty, to trace the courses of rivers to unknown springs, to catch his spirit of adventure, which, bound by no narrow rules, presses on to the heights of Truth, aye, if we are willing even to follow Goethe's advice—

> "Gib dich an einen Meister hin
> Mit ihm zu irren ist dir Gewinn,"

then we need have no fear. There is a curious passage in point in Herbart's own *Science of Education.* He is describing an "impressive" moment in a lesson:—

> "The teacher retires into himself, tears himself free by force as from a false relationship, which seems to mock him, or he comes out of himself and rises above the trivial, which was too narrow for him. The pupil sees the torn threads lying; whilst musing over it the right principle or the true means begin to appear indistinctly before him, and when he is ready to seize and restore them the teacher hastens to meet him, dissipates the darkness, helps to unite what is severed, to smooth difficulties, and to strengthen the wavering."

In other words, the first great secret of Herbart's power is his *suggestiveness.* He never meant to bind men by hard and fast rules, and the ablest of his present disciples utterly disclaim the idea. Rather, like Socrates, he would suggest new paths for us to

try. He bids us share his tentative efforts. He shows us frankly the torn threads which once impeded him. He would awake in us his own "apperceptive investigating interest," and we must confess that the history of the Herbartian school is itself the greatest example of his success. Herbart himself would be the last to expect us to hold all his theories now, though there is often a strange interest attaching to those we discard,[1] and there is much to be learnt even from the mistakes of an intellectual pioneer.

Secondly, besides the suggestiveness of Herbart's writings which every persevering student can find out for himself, we are undoubtedly indebted to him for bringing into prominence certain grand principles which form the real basis of all good teaching. It is above all things necessary that we should keep these in mind as we read the letters before us.

It is the main object of the present introduction to give a brief summary of these great thoughts on which Herbartianism rests.

A special lesson has been added as a practical illustration of the Formal Steps. It is an application of Herbartian principles to a purely English subject, viz., the story in Spenser's *Faerie Queen* of the encounter between the "Knight of Holiness" and "Despair."

[1] Among the latter we would mention parts of a chapter in his *Psychology* on the "Destiny of Man." With the conviction of immortality in his mind, he pictures the possibilities of "the play of the psychical mechanism," and the calming of the soul after death; and we seem to read between the lines of scientific reasoning the old longing of the race for peace "after life's fitful fever."

CHAPTER II.

THE HERBARTIAN THEORY OF EDUCATION.

SECTION A.

THE AIM IN VIEW.

"Sacrifice is offered for and to
Something conceived of.
An ignorance of means may minister
To greatness, but an ignorance of aims
Makes it impossible to be great at all."

E. B. BROWNING.

"How much the more thou knowest, and how much the better thou understandest, so much the more grievously shalt thou therefore be judged, unless thy life be also more holy."

THOMAS À KEMPIS.

"Unto man He said, Behold, the fear of the Lord, that is wisdom; and to depart from evil is understanding."—*Book of Job.*

MEN have set up strangely different aims for education. Rousseau would above all things teach his pupil to live.[1] Yet, as Herbart sarcastically remarks, "Evidently life is not the highest good," for in the *Emile* the whole of the tutor's valuable life is to be sacrificed to the one pupil.

Again, Locke would above all things educate the boy into "a gentleman," a conventional man of the world. Well, says Herbart, one can say nothing to this: "*Buy*, at any price, a trustworthy man of refined habits as your tutor; you *may* succeed. The world is in league with the worldly."

[1] "Vivre est le métier que je lui veux apprendre."

Herbert Spencer has severely criticised his contemporaries. He points out that in order of time decoration precedes dress, and that "men dress their children's minds as they do their bodies, in the prevailing fashion." As the Orinoco Indian puts on paint before leaving his hut, not with a view to any direct benefit, but because he would be ashamed to be seen without it, so a boy's drilling in Latin and Greek is insisted on, not because of their intrinsic value, but that he may not be disgraced by being found ignorant of them, that he may have "the education of a gentleman." True, but what does Spencer suggest as a better aim? He repeats the maxim of Rousseau: "How to live: that is the essential question for us. To prepare us for complete living is the function which education has to discharge." But what is complete living? Some men have felt Spencer's ideal life of prosperity a failure and a delusion, and have echoed the words of the philosopher poet, that the grandest life is much rather "Energy of Love,"—

> "Divine or human, exercised in pain,
> In strife and tribulation, and ordained,
> If so approved and sanctified, to pass
> Through shades and silent rest to endless joy."

But this is self-sacrifice, not Utilitarianism, and we are left as much in the dark as ever. The formal aims quoted by Dr. Rein are too indefinite, as, for example, the maxim of Goethe:[1] "Educate the pupil to independence," or "educate the pupil to be his own educator;" or again, that of Hector for Astyanax:[2] "Educate the child so that he will become better than his educator."

Herbart's doctrine in contrast to all these is simple and clear. "The one problem, the whole problem, of

[1] *Hermann and Dorothea.* [2] *Iliad.*

education may be comprised in a single concept—morality." Psychology does indeed furnish us with a basis for pedagogy, but it is to ethics that we must look for its aim; and thus "Erziehender Unterricht," or, as the Americans translate it,—"the instruction that makes for character," has become the leading watchword of the Herbart school.

Herbart further explains his meaning thus: "By forming the character we mean this or nothing—we lead the pupil to realize his own free personality in choosing the good and refusing the evil." This definition leads at once to the question,—What is good? Granted that ethics is to furnish the aim, what system of ethics do we propose to adopt? Can we agree with the Utilitarians, and judge an act by its consequences? Henry V., on the eve of the battle of Agincourt, is represented by Shakespeare as defending himself against an accusation of this kind. A soldier charges the king with the guilt of all the horrors of war. "Nay," answers Henry, "every subject's duty is the king's, but every subject's soul is his own." Bad men may meet sudden death in battle, but that cannot make the king's action in declaring war blameworthy. The carelessness which lost a sovereign in the street saved a despairing creature from suicide. The honest pilot was misled by a wrecker's light, and he steered 500 men to their death. But evil cannot be good, nor good, evil. What is goodness?

Herbart echoes Kant's grand reply to this question when he says in his *Metaphysics:* "There is nothing in the whole world, or indeed out of it, of which we can conceive, which can be taken without limitation as good, except the goodwill." "Neither knowledge, nor goods, nor external actions are good in themselves. . . . . It must be the person's own will, developed by insight into the absolutely binding

validity of the moral law, or the absolute beauty of the moral ideal."[1]

Moral judgment, then, can only really be passed on acts done consciously as the expression of will; and the will is liable to censure or praise, even when the action quite fails to be its true expression. Savonarola, when tortured, recanted in his delirium that which he believed to be the truth, but we pass no moral censure on him, and his unflinching death in the market-place of Florence confirms our judgment. When Dante is ascending through the rolling spheres of the *Paradiso* he sees the form of a nun, Piccarda Donati, who had apparently been forced to break her vows. He wonders that her place is not higher, since she could not help it that they dragged her from the cloister's shade. Why, then, in this lower moonlight, not untouched by the shadow of earth? But Beatrice answers him:—

> "These souls no real violence sustained,
> Since will unwilling is not to be quenched;
> But, like to fire, persists incessantly,
> Though thousand times by violence it be wrenched."[2]

So Piccarda must be left in the dim heaven of imperfect wills, because perfect Justice knew it might have been otherwise.

The next difficulty is the choice of an ethical standard. In what does the goodness of the will ultimately consist? We now get three widely-different standpoints with regard to the ethical concept, which Dr. Rein has thus tabulated:—

Ethical Concept.

1. Hedonism.	2. Culture.	3. Morality.
Concept of Pleasure.	Concept of Culture (or Perfection).	Concept of Principle (Gesinnung).
Feeling.	Thinking.	Willing.
Enjoyment.	Work.	Service.

[1] Rein. [2] *Paradise*, iv.

1. We may say with Mill, actions are right in proportion as they tend to promote happiness, wrong in proportion as they tend to produce misery. Happiness, then, is "our being's end and aim," and the army of martyrs and heroes *really* died merely because they preferred the more refined spiritual happiness to that derived from a lower source; and the saints of the earth are they who have adjusted the balance most finely between the pleasures of time and the joys of heaven.

Bentham was right, then, when he said, "We are under two great masters, pleasure and pain; it is for them alone to determine what we ought to do."

2. Again, we may say actions are right or wrong as they tend towards culture. As Hedonism was in the main egotistical and individual, so culture or perfection is social, and has regard for the progress of the whole. Aristotle is one of the greatest representatives of this view. According to him the chief good for man is to be found in the actuality of his powers according to their own proper law of excellence; and it consists chiefly in the evocation of his highest faculty, the reason. Thus the greatest happiness is to be found in contemplation and speculative thought. The joys of the philosopher are beyond compare; a satisfaction of an inferior kind is to be found in the exercise of the moral virtues:

> "Moral development and the realization of our powers (ἐνέργεια) require as external conditions a settled community, social habits, the restraints and protection of laws, and a wisely-regulated system of public education. Man is by nature a political creature, he cannot isolate himself without becoming either less or more than man."[1]

Spinoza answered the question, as to the chief good for man, in much the same way:—

[1] *Encyclo. Brit.*, article on "Aristotle."

"The highest good is to arrive at a state consisting in the knowledge of the union which the mind has with the whole of nature, and to be able to enjoy that state in common with other individuals."

3. Lastly, we may believe with Kant and Herbart that morality does not consist in a series of truths or rules relative to an end, such as perfection or happiness for oneself or people in general, but rather in truths which are independent and absolute in their character. The mere recognition that I *ought* to do this is the only adequate reason why I should do it; if I do it from any other motive the action is not truly moral. As Herbart expresses it:—

"The goodwill is good, not through that which it effectuates or does, or through its fitness to attain a prescribed aim, but solely in virtue of the willing, *i.e.*, it is good in itself."

One more difficult question must be dealt with, and it is important, because here Kant and Herbart differ. What is the origin of this sense of obligation in my inmost consciousness? Whence comes it that I so persistently feel I ought to do this and refrain from that?

Kant's well-known theory was, that wherever man is found he possesses certain intuitions about right and wrong, that these are universal and binding in themselves, and are the command of pure reason to the will. Man is free to choose to obey them or not. A will in harmony with them is alone truly moral. This, then, is the famous "categorical imperative," as opposed to any hypothetical command which prescribes an action merely as a means to an end. The contrast is seen in the two forms, "Thou shalt be righteous," and "Thou shalt be righteous *if it conduces to thy highest happiness.*"

Kant's central thought was that of a perfect righteousness, which viewed all things from the

standpoint of the universal, or, as Christians would say, "from the throne of God." His highest principle of morality was:—

"Act so that the maxims of thy will can at the same time be valid as the principle of a universal lawgiving, *i.e.*, that no contradiction shall arise in the attempt to conceive the maxims of thy acting as a law universally obeyed."[1]

This corresponds with the Christian principle, "Do unto others as you would they should do unto you."

Herbart's doctrine differs from that of Kant in two points. (1) He did not believe in transcendental freedom. (2) He thought it "a mistake to begin the science of ethics with the categorical imperative," for the following reason. To command is to will, and if a command as such be possessed of original and absolute certainty, then one act of volition as such must take precedence over all others. But each will, as will, is equal to any other will; consequently, since no will, as will, is superior to any other, no command as such has any original right to command. Hence, that which is commanded cannot as such carry with it the obligation of duty. In other words, Herbart did not hold that the categorical imperative was the *first* thing in consciousness, because he saw no adequate reason why one special volition should be thus raised above the rest. The command surely comes, and woe unto those who try to ignore it; but it is derived from something else, and what that is demands special attention.

An artist in music can enumerate the harmonic relations of his art, and definitely show their correct use. He is perfectly aware of the relation between one chord and another, but if you demanded proofs from him of his statements, as Herbart says, he "could only laugh at or pity the dull ear that had failed to apperceive."

[1] SCHWEGLER'S *History of Philosophy*, p. 255.

If you do not *hear* a discord the greatest musician cannot prove to you that it is one, though the moment it sounds you see his æsthetic judgment of disapproval in his face. We are not all bound to be artists; if we have no taste for a thing the wiser course is to withdraw from its study. But supposing there is that in a man's own mental world which is the object of instantaneous judgments of this kind; from himself he cannot separate, and they may "by their quiet, yet ever audible speech, in time *coerce* him, exactly as they do the amateur who has set his heart upon becoming an artist." If we suppose, moreover, that these judgments take place whenever there is conscious activity of the will,—a silent independent witness of approval or disapproval of every real volition,—we shall have before us that which Herbart substitutes for Kant's categorical imperative, to which he has given the name of the æsthetic judgment. It is *æsthetic* simply in the sense that we see in it the same kind of necessity which attaches to our instantaneous judgments on painting, music, and the other arts, and not that we are to identify the good with the beautiful.

Summing up what Herbart says about the subject, we gather that these intuitive judgments are original, involuntary, and without proof; they do not enforce their claims, nor do they become commands until the personality has yielded to them, and thus as it were raised them into the position of the categorical imperative. It is their slow pressure which men call conscience. We easily recognize that judgments of this kind can be passed on the human will only in its various relationships to itself and others; action without will and consciousness is non-moral.

The will must stand in relationship either to itself or some other will; and thus, by the most careful analysis, Herbart has reduced all possible cases to five, two in which there are two wills existing in the same person, and three in which two or more persons are involved. The series of great concepts formed by the mind of these relationships is known as that of the five Moral Ideas.

I. *Inner Freedom.*—"The child enters the world," says Herbart, "without a will of his own"; that is, "instead of a true will, which renders him capable of determination, there is only a wild impetuosity, impelling him hither and thither—a principle of disorder disturbing the plans of adults, and placing the future personality itself in manifold dangers." And out of this we get what has been described as the conflict between the two wills. The earliest developed is the objective, based on the natural desires, passions, and inclinations, that which the individual finds already existent when he begins to observe himself. Later on develops the subjective, the new will, which arises in and with self-observation, based on the intuitive judgments which the boy is already beginning to pass on himself and others. And thus very early comes the consciousness of inner discord. "When I would do good, evil is present with me." Claudius, roused by Hamlet's play, is a case in point. The voice of conscience thunders through the inner world that his "offence is rank," that it demands restitution and repentance, and the subjective will strives for supremacy. But opposed to it is the objective, based on the desire to keep the results of sin, the throne and Gertrude:—

> "My crown, mine own ambition, and my queen,
> May one be pardon'd and retain the offence?
> . . . 't is not so above."

Knowing the higher command, he yet yields to the lower, and peace flies from the darkened soul; the man is enslaved. Inner freedom is attained by the unconditional surrender of the objective to the subjective or law-giving will.

II. *Perfection.*—The harmony of the objective will with the subjective arouses the æsthetic judgment of approval. In the case of Hamlet, according to the ethical system of the day, it was the son's most solemn duty to avenge his father's murder. Hamlet does not shrink from this, although nothing could be more appalling to the intellectual dreamer than such a task. This rouses our approval; but the deed was not done. There was a most serious delay, ending in widespread ruin. The cause was a fault in the will. There was not enough energy in it to carry out efficiently the mandate of the higher self.

"If we think of the force and the resistance with which a human being maintains the goodness of his will against those emotions and desires that work in opposition to it, then morality—at first merely a quality, a determination of the will—becomes to us the virtue, power, action, and efficacy of the will so determined."[1]

It has been noticed that in Mrs. Ward's *Edward Langham* we have a strange picture of a modern Hamlet. Langham had won a woman's love, and his love for her was so real, that at one moment he was ready to face a revolution in the habits of a lifetime. Then he quailed before it like Hamlet.

"In both lives the tragic woof is the same; it is the tragedy of spiritual impotence, of deadened energies and paralysed will, the essential tragedy of modernity. Hamlet fascinates us, just as Langham fascinates us, because we see in him ourselves; we are all actual or potential Hamlets."

Contrast with this the spirit of the aged Bede. He had set himself to complete a task, a translation for the good of his people; but he was dying, and his disciples besought him to rest. "Nay," was the answer, "it must be finished, write quickly"; and, wrestling

[1] HERBART'S *Æsthetic Revelation of the World.*

with death, the old man faltered on till the last word was written; then he died with the "Gloria" on his lips.

As the lower rises to obey the higher the latter must also ascend, even as in climbing a mountain the heights ever seem to rise beyond us. Browning expresses the same thought:—

> "Ah! fragments of a whole, ordained to be
> Points in the life I waited. What are ye
> But roundels of a ladder which appeared
> Awhile the very platform it was reared
> To lift me on?"

"Perfection," then, in this case is not used for the sum total of completed virtue, but for the adequate efficiency or strength with which the law-giving will is obeyed.

III. *Benevolence.*—The two first ideas alone do not necessarily involve moral volition, because they only deal with the form and not the content of moral action.

Inner freedom demands the coincidence of volition with judgment; perfection, the adequate strength to carry out the judgment. But the moral insight may be faulty, and a strong will may be in the service of the passions. The Indian mother, who throws her child into the sacred river, acts in accordance with both ideas; but her action *per se* is not praiseworthy. We require, then, the idea of benevolence, the unselfish devotion of one will to the good of another.

The rare beauty of this idea never fails to attract the nobler spirits among men, and ever since the days of Jesus Christ it has been inseparably connected with His name. The cross is the emblem of its supreme power. Yet there is much so-called benevolence which will not bear any test. To seek the real *good* of another will may involve keen suffering to both individuals. The highest love triumphs over even

this. The prayer for the wayward Sintram is a striking example:—

> "Mein Gott und Herr
> Das Weltgezerr
> Wend ab von seinem Herzen
> Ruf ihn hinein
> Zum Himmelschein
> Sei's auch durch tausend Schmerzen."

IV. *The Idea of Right.*—The common sphere of action for human wills is the external world. Here it must necessarily often occur that two wills are set on one and the same object. When this happened to man in what Hobbes calls a state of nature the result was war; and thus, as the same writer says, life was "solitary, poor, nasty, brutish, short." Man learnt slowly that to do as he would be done by was safer and better for all, that benefit accrues to the individual if he agrees to use only as much liberty against other men as he wishes them to use against him. In other words, he assents to law, and is willing to be punished himself if he commits theft, as he wishes other thieves to be punished. "Right is the concordance of several wills regarded as a rule for the prevention of strife."[1] This idea of right militates against over-developed individualism, and that one-sided culture of certain special tendencies in mind which is so strongly condemned by Herbart.

> "Doubtless the lover of the bizarre and of caricature would rejoice to see, instead of many fully and proportionately-developed men, fit to move in rank and file, a crowd of hump-backs and cripples of all kinds tumbling wildly over each other. But this is what happens where society is composed of men of widely-different modes of thought; each brags of his own individuality, and no one understands his fellow's."[2]

[1] HERBART.

[2] *Science of Education*, p. 142.

In contrast to this the idea of right demands that, like Plato's just man, we should see things from the universal standpoint, that we should live according to the laws of that ideal city of which the pattern is laid up in heaven.[1]

V. *Justice or Equity.*—The idea of justice demands that the benefit or harm intentionally done by one will to another should be returned to the will which originated it in the form of reward or punishment. But this must be kept distinct from all vindictive personal feelings. Punishment must not fall on the wrongdoer through man's natural impulse to return blow for blow, but as the solemn vindication of the moral law.

By applying these five ideas to social life we obtain the following developments. From the idea of right we get jurisprudence and the concept of a law-abiding society (*Rechtsgesellschaft*); from equity or justice develops penal law and a system of rewards and punishments. The idea of benevolence demands that every member of a community must contribute to the welfare and good government of the whole. Perfection requires each man to take part in the advancement of general culture. Inner freedom involves the willing submission of the individual to the will of an ideal state. This thought of a heavenly city appears under many forms as one of the highest ideals man seems able to conceive. It occupies a prominent place in Jewish literature; it is worked out in the *Republic* of Plato; it appears faintly even in Teutonic myth, in the vague longing for an entrance into Valhalla, the hall of the kinsfolk. A community of the good and the noble, an *Urbs beata*, seems to have ever been the summit of human aspiration. The superb vision of St. John in Patmos is its most significant expression. There, the battlements flashing with

[1] *Republic*, Book viii.

rainbow tints, seem to symbolise in a remarkable way the Herbartian idea of carefully-preserved individualities, while at the same time the whole city is lit up with the white light of absolute moral beauty,—for "the Lamb is the Light thereof."

We do not propose to discuss fully Herbart's views on the subject of religion. Suffice it to say here that he attaches supreme importance to the teaching of it to children.

"God, the real centre of all moral ideas and of their limitless efficacy, the Father of man and the Lord of the world, should fill the background of memory as the oldest, the first percept, to which all recollection of the mind, returning out of the confusion of life, must invariably come at last, that it may rest as in its very self in the repose of faith."[1]

And again:—

"As the ultimate point of the universe, as the summit of all sublimity, this idea of God must glimmer in early childhood as soon as the mind begins to venture an outlook over its knowledge and thought, its fear and hope, as soon as it tries to look beyond the bounds of its horizon. Above all, the mind must keep Sabbath in religion. It should turn to it for rest from all thoughts, desires, cares."

The modern Herbartian school have made religion the centre of their scheme of instruction.

Whatever Herbart himself may have held, one thing seems clear. So far from being incompatible with faith in revelation, the Herbartian principles only bring out more clearly the divine reasonableness of redemption. One question of considerable ethical difficulty may exemplify this. "If you would ruin a nation," says Dr. Rein, "you need only persuade them that the ethical standard is variable." This is self-

[1] *Æsthetic Revelation of the World.*

evident. Who would strive to ground maxims for the guidance of life on theories which may be found invalid in a few years? On the other hand, we cannot shut our eyes to the presence of development here as elsewhere. We look upon many acts now as immoral which the most upright of our ancestors committed in all good conscience. What, then, has changed? Surely we are here face to face with the old problem, "*In allem Werden ein Sein*,"[1] and it is not to be solved by denying the existence of either of its parts. Moral perfection exists in the five great Ideas taken together, and the mind of man can conceive nothing higher; but *the application of these concepts to the tangled maze of human life is quite another matter.* It is one thing to state them, one thing to dimly grasp their meaning, quite another to apperceive their full content. Apperception and the theory of the culture epochs † seem to throw a flood of light on this subject. If we believe that the child reproduces in his little life the development of the nation, we shall see that the moral standard need never have varied. In the infancy of the race man apperceived it but little, his tastes were crude, his desires simple, his grasp of abstract truth exceedingly limited. The vision of absolute perfection, like that of absolute truth, would have been simply blinding; yet men had light, some more, some less, as there was capacity to receive it, and especially in those early days it seems coloured with the tints of national individuality. *White* light they saw not, perhaps could not see and live. As they followed what they saw, it grew brighter, and there were some precocious children of the race, whose gaze was so long and earnest, that a fulness and a beauty dawned on them beyond their age. So a Socrates lived *in* the world of his day, but not *of* it; for as

[1] "In all becoming there is being."

[2] See Introduction, p. lxxxvii.

Emerson says, "Holiness confers a certain insight. Such persons are nearer to the secret of God than others . . . they hear notices, they see visions, where others are vacant."

But at last appeared a Man who *had* gazed unblinded on the perfect moral ideal, and its glory shone through His life. What was the result? He was a mystery to His age. Men were conscious that something quite new was before them, and His presence constantly provoked ethical questions. The feeling of many of His contemporaries was that of the puzzled Roman, "*Whence* art Thou?" But they could not understand Him, could not apperceive His moral beauty; and so that happened which Plato had foreseen—they crucified their one Just Man.[1] Since then His life has changed the aspect of the world; for when He had apparently left them, men began by degrees to understand the meaning of what they had seen. The chains fell from the slave at His touch; woman became ennobled; *His* tenderness for the sick built hospitals; *His* love for children protected the orphan; *His* forgiveness slew revenge; *His* peace is beginning to hush even the clamour of war.

Every spark of moral beauty, which men think *they* have evolved, they find was there before in the stainless light of that one personality. As the national ideals rise, His life is still beyond and above us, because we are only now gathering the apperceiving factor to understand it even a little. The question is reiterated by the history of the ages, "*Whence* art Thou?"

Suppose the members of a race *had* somehow ethically fallen, and moral degeneration had set in, how could they, blind as they were, even *see* holiness again? Only by degrees, and through the human; that alone they could understand. Is there not, then, divine reason

[1] *Republic*, ii. 361 (JOWETT'S Trans., p. 41).

in the message, that because of *this*, because there was *no* other way and none other that *could* save, Deity itself accepted the limitations of humanity;—"He emptied Himself (ἐκένωσε), taking the form of a servant, being made in the likeness of men, . . . becoming obedient even unto death, yea the death of the cross? For—'*God was in Christ.*'"

Socrates thought that if once men saw absolute goodness they could not choose but follow it; but he knew no remedy for an enslaved will which had deliberately shut the eyes of the mind. In the religion of Jesus there was this supreme addition. Absolute beauty appeared in a Person who appealed to the will, and gave it strength by His love.[1] So that as apperception strengthens, His friends are changed into His image, and at last they will be like Him, *for they "shall see Him as He is.*"

We have seen that the five great Ideas, taken together, blend into the moral ideal. But we cannot expect to find them in their fulness in the little child.

The æsthetic judgments are as yet undeveloped. To place the power already existent, and *in its nature trustworthy*, under such conditions that it must infallibly and surely accomplish a rise into willing personal obedience, is the possibility before the teacher. Children do not at first know the things which are *per se* base or praiseworthy. But as artistic taste is developed by the observation of shades of colour, so moral judgments are called forth by observation of actions, regarded as the manifestation of will.

Beginning at first with vague feelings, indefinite and easily led astray, they must develop into logically-

[1] It is in the concept of the Good Shepherd, who came to seek that which was lost, and who passed even through the valley and the shadow of death that His own might fear no evil, that we see the supremacy of Christianity over Platonism.

formed and clearly-expressed judgments. The surroundings of his home, his lessons, his books, the world with its full and manifold life, all present material for the exercise of the boy's judgment, and he ought to attain a noble freedom which shall establish a law to himself. Whether he does so or not depends on whether he becomes first "immersed in the calculations of egotism or in the æsthetic apperception of the surrounding world."

This ought not to be left to chance. It is the teacher's office to see to it, that there is such a presentation of the universe that evil impressions may be counteracted, and what is good may be strengthened.

All that is pure and stainless, lovely and noble, in the world of thought, history, art, literature, lies ready at our hand. It *is* a moral world, as our greatest thinkers reiterate; to call evil good, and good evil is false to the nature of things. "The soul that sinneth, it shall die." Shall we let our children listen to the lie of the serpent, "Ye shall *not* surely die"?

It is ours to introduce these youthful strangers into the august society of the mighty dead, but it will be *through* us they meet them. If the siren's voice is music in our ears, it may lure them on the rocks; if the poisoned cup be sweet to our taste, they will drink of it.

In a somewhat difficult passage Herbart describes the result of presenting a lowered ideal. Our task is "to prepare beforehand in the child an inward facility for attaining the aims which, as a man, he will place before himself." And "who will warrant us that the future man will not search out *the good*, to make it the object of his willing, the aim of his life, the standard of his self-criticism? Who will protect us against the severe judgment which will then overtake us? There are instances of the kind; and it is never safe to set up

as business manager for another if we have no mind to do the work well."

One of the most awful moments conceivable is that pictured by Lowell. Two shadows darken the door of a closing life—the youth that is dead and the lost ideal of the past; and they enter a ruined temple, a desecrated shrine:—

> "The sacred vessels moulder near,
> The image of the God is gone."

But there is that which is worse,—to see a dead ideal in one whom we have taught, a bright dream of childhood which faded *at our touch.*

In passing, we must not omit to notice how Herbart's ethics are inseparably connected with his psychology, and, above all, with his doctrine of apperception.[1] In this case the point emphasized is, of course, the great fact, that though the same world lies open to all, men see strangely different things in it. It is the riddle of Odysseus:—

> "I am a part of all that I have met;
> Yet all experience is an arch wherethro'
> Gleams that untravell'd world whose margin fades
> For ever and for ever when I move."

Here we can only notice that from this point of view, in ethical considerations, a teacher can only lead his pupil to see that which he sees himself. As Herbart says:—

> "The teacher himself will be to the pupil *an object of experience* at once as fruitful as it is direct; yea, in the hours of teaching an intercourse grows up between them which is, at the least, a foretaste of intercourse with the great men of antiquity, or with the clearly-drawn characters of the poet. Absent historic or poetic characters must receive life from the life of the teacher."[2]

[1] For a full discussion of this doctrine see page lxiv.
[2] *Science of Education.*

What sort of life are we prepared to give to these beings of the mind?

Swift, in the words of his giant king, saw men as "the most pernicious race of little odious vermin that Nature ever suffered to crawl upon the surface of the earth," and as the lurid gloom deepened he saw them as—Yahoos! A Tennyson could show men a King Arthur, or a Sir Galahad. Surely Plato was right: "I ought to be careful that I do not lose the eye of my soul." The thought, truly, is many-sided, "What if earth were but a shadow of heaven?"

> "A touch divine,
> And the scaled eyeball owns the mystic rod,
> Visibly through His garden walketh God.[1]

> "Earth's crammed with heaven
> And every common bush afire with God,
> But only he who sees takes off his shoes."[2]

Was not Dante dreaming of an ideal guide, when he said, "I looked on Beatrice; and *she on heaven*"?

Section B.

THE MEANS OF EDUCATION.

I. PRELIMINARY QUESTIONS.

Metaphysics and Psychology.

Experience propounds to us two great questions concerning the universe in which we find ourselves. Charles Kingsley aptly personifies them in his scientific talks with children as Madam How and Lady Why. Since the days of Bacon our acquaintance with the former has ripened into respectful intimacy. Of the latter we speak with deeper reverence than we did.

[1] Robert Browning. [2] E. B. Browning.

Our desire to see her has increased, but we realize now how rare and fitful are the glimpses she vouchsafes us. Still, we cannot avoid inquiry, and it stands on the very threshold of the "means of education."

When Herbart speaks (page 4) of the pupil's capacity for cultivation, and tells us we must consider, first, "that into which the passive may develop," the question forces itself upon us, What is the nature of this so-called "passive?" We watch the phantasmagoric change of mind-phenomena; their beginnings are obscure, their complexity baffles us, and at their grandest point of development, when the experience is full, the judgment sound, and wisdom has at last crowned the knowledge of earlier years, there may come a slight failure in the physical mechanism, and "the rest is silence"; gone, but "whence, and oh heavens, whither?"[1]

A few points must be noticed before we discuss Herbart's views as to the nature of mind. The first is the reaction between mind and body. Physiological psychology has made enormous progress since the beginning of the century,[2] and some of Herbart's tentative remarks in Letters IV.-IX. naturally cannot now be endorsed. Still, here again we can only wonder at the masterly mind which anticipated so many of the discoveries of a later decade, and at the ability of the pioneer who pointed out the way which others have since pursued.

It is incontrovertible that the body powerfully affects the mind. Consciousness disappears wholly or in part as a result of disturbance or injury to the brain. If the body is sound, the mind is fresh and active; with a sickly body it is weak and miserable. Insufficient nourishment, bad air, insanitary conditions soon injure mental activity.

[1] Carlyle's *Sartor Resartus*.
[2] See an interesting account in the *Nineteenth Century* for July, 1897, "Recent Science," by Prince Krapotkin.

"A mere catarrh hinders imagination, concussion of the brain destroys it wholly or in part, movement of the body helps it. Rousseau had to walk in order to think, Lenau and Mozart composed with most pleasure when moving, Xenophon and Goethe delighted in riding, Klopstock and Herder in skating. Aristotle recommended lively motion to tragic writers in order to get themselves into an emotional condition."[1]

Lastly, we know that trifling annoyances seem maddening to the over-worked, and "the grasshopper is a burden" to the old.

But even more mysteriously does mind affect body, and here indeed the phenomena of nineteenth century neurosis and hysteria show how much there is yet to be investigated in this matter. The body is often the expression of the soul. The eye shines with joy, the voice is modulated to express feeling; speech, above all, gives utterance to mental activity. "Say something," said Socrates to Charmides, "that I may see thee." Imagination has the strangest effect on the physiological processes. Imagined danger quickens the action of the heart; the belief that one has drunk poison sometimes has the same effect as taking it. Kirchner cites a pupil of Boerhave, who had to give up medical study because he actually contracted every sickness which he heard described. A number of cases of this kind are collected in Hecker's *Epidemics of the Middle Ages*, and Moore's *Power of the Soul over the Body*. The wild dance of St. John or St. Vitus, which seized upon thousands after the visit of the black death; the French nuns, who, led by the strange impulse of one sister, *mewed* regularly every day for hours together; the dancing dervishes of the East, all show that the mental state called sympathy may bring about the strangest physical conditions. Still more remarkable are some

[1] KIRCHNER'S *Psychology*, p. 229.

of the sense deceptions which have been caused by imagination. Le Sage tells us that Olivarez actually died of horror at an apparition which never left him, although *he knew it was only a delusion*. Nor can we by any means confine these experiences to the insane or weak-minded. "Even Goethe saw himself in 1771 riding to meet himself," and some of the greatest poets, artists, and thinkers "could amuse themselves with hallucinations at will." Amongst these were Goethe, Tasso, Jean Paul, Walter Scott, Cardanus, and Spinoza.

What, then, is the nature of mind, and how are we to account for the mysterious correlations evidently existing between the nervous mechanism and the phenomena of consciousness. To the first inquiry three different answers have been given:—

1. *Materialistic*. This denies the existence of any reality other than the material substance of the living and active nervous system.

2. That called by Höffding the *Identity* hypothesis, which regards brain and mind as phenomenal aspects of one reality, which is like neither, but manifests itself in both.

3. *Spiritualistic;* which denies the possibility of explaining mental phenomena without referring them to a non-material or spiritual entity as real subject.

For a full and masterly discussion of these answers, the reader is referred to Prof. Ladd's *Physiological Psychology*, Part III. p. 585. Suffice it to say here, that to the first attaches this fundamental objection,—it confuses dependence with Identity.

"The fire which is kindled from ice by a burning-glass is yet not of the *same nature* as ice. . . . To say that a feeling is really the vibration of a brain fibre, or really an electro-chemical process is manifestly no explanation. For

the vibration which may be parallel to that feeling or may be its foundation, is yet not that feeling itself. To identify both is, as Fick strikingly observes, as bad as to explain the pain of a broken leg by the sight of waggons in collision."

Again, all nerve commotion admits of measurement by the common physical standard, but the mental phenomena defy us; "a weighty argument," "a high ideal," cannot be gauged thus. A simple sensation of a damask rose may be ours, but the "red" retinal elements are not themselves red, and if they were, it would not help us to understand the state of consciousness called a *sensation* of red.

To the second theory the objection may be raised that it lands us in agnosticism at a very critical point; it offers no explanation as to what the "double-faced Unity" really is, nor how it comes to manifest itself in two such different forms as mind and matter.

The third, advocated by Prof. Ladd, asserts that

"The subject of all the states of consciousness is a real Unit Being called Mind, which is of non-material nature, and acts and develops according to laws of its own, but is specially correlated with certain material molecules and masses, forming the substance of the brain. For the latest modern physiological-psychology gives no definite account of the origin or destiny of mind. It fails to explain the entire being of mind, as arising out of the physical, from which the bodily members unfold. It knows no decisive reason why the mind should not exist in other relations than those it now holds to brain; rather does it disclose certain phenomena suggesting, perhaps confirming, the possibility of such existence."

What now are Herbart's views on this subject? He believes the Soul or the Ego to be one of the noumena of the Universe. To him it is an absolute Real, a Monad, simple, eternal, indissoluble, indestructible,

and consequently immortal; its nature is unknown to us.[1]

[1] "In reply to this pointed query (as to the fundamental nature of the soul) it would be simplest to confess our conviction that what the soul is we never shall know; but by such a confession we should create the impression that through this ignorance we must lose much that is of importance for our investigation, and that in regard to the soul a difficulty is to us insoluble, which is easily removed in regard to all other things." Lotze goes on to prove that this latter statement is very far from correct, that all our definitions of real objects are hypothetical, and that they never denote the thing except as that which, under different conditions, will appear in different characters. "In granting, then, that the essence of the soul is unknown, we do so only in a sense that includes the impossibility of saying what would be the essence of anything in the entire absence of the conditions that are the exciting occasions of its manifestations. It is just as impossible to know what the soul is before it enters on any of the situations in which alone its life unfolds, as it is to tell how things look in the dark. . . .

"But if it be true that the essence of things in this sense is to us unknown, is it also true that we lose much by this ignorance, and is it in this essence, which eludes our grasp, that we must seek the essential that we would not willingly fail to find! I do not think this question need be answered affirmatively. . . .

"In the sense of another man's knowledge, the tone of his mind, the dispositions of his character, and the peculiar action and reaction of these elements on one another, we think we have presented to us his entire personality. If our acquaintance with him is such that we have mastered these items, we do not fancy that we should gain insight into the innermost core of his being, by his being set before us as he was originally, before, in the process of growth, he had acquired his present highly-developed internal existence, or as he is now at bottom, and would even now show himself to be, if all the results of his past life, as well as all the conditions by which he might still be influenced, were removed. We acknowledge indeed that this mental life could not have developed itself, had there not been previously a primitive soul, as yet unexpressed, for the influence of the vital conditions to act upon as they came into being; but this, which in other cases we look on as the peculiar and fundamental essence of the thing, we here regard as an indispensable, yet in itself worthless pre-requisite, as a necessary means of that development which itself contains all value and all essential significance. It seems to us that the true essence lies in that which the subject of the development has become, and no more than we believe we possess in the unfolded and blossoming plant, something inferior to the simple and shapeless germ from which it sprang, do we here feel any inclination to look with regret on the ideas in which we share, on the feelings and efforts in which, with all

"Between several dissimilar simple essences exists a relation, which, with the help of a comparison from the physical world, may be described as pressure or resistance."

The Reals of the Universe, then, would press against and produce changes in each other, if it were not also inherent in them to resist and maintain themselves in their original quality.

"Self-preservations of this kind are the only events which really occur in nature, and this is the combination of event with being. The self-preservations of the soul are (at least in part and so far as we know them) simple concepts, for the act of self-preservation is as simple as is the essence which is preserved."[1]

All psychical phenomena whatever result from the action and interaction of these elementary ideas, which Herbart calls the *Vorstellungen*. They are the varying states into which the soul is thrown by its efforts at self-preservation.

The soul (according to Herbart) has originally no content whatever. "The production of a content begins as soon as the soul enters into union with the body." According to this, we cannot of course speak of faculties of the soul *per se*, because all human souls are in their quality alike. This, however, is a purely metaphysical point as regards Education. We have to do only with embodied spirits, and here individuality comes in at once. The differentiation is based on:—

(I.) Inherent capacity, dependent on bodily structure.

(II.) Acquired capacity, dependent on environment, human or otherwise.

the ardour of our sympathy, we take part, as a poor substitute for the vision of the undeveloped, primitive τὸ τί of the soul." HERMANN LOTZE, *Microcosmus*, Book ii. ch. ii. pp. 189, 190.

[1] HERBART's *Text Book of Psychology*, p. 120.

These two factors, which together make up Individuality, may offer the strongest opposition to the teacher's efforts.

We have considered the rise of elementary ideas. Herbart has a further explanation for the phenomena of Emotion and Volition.

The difficulty of defining feeling is felt by all psychologists. Kirchner points out that it can be described only in a roundabout way, because it is a manifestation of the soul itself. Yet the fact is indubitable,—the soul is *affected* by its own states, motions, and activities. "Feeling is thus the *being aware* (apperception) of our total state. According as this is harmonious or not, the soul feels pleasure or pain." Kant again defined it as "the unmeditated idea by which the soul defines its own state with reference to the objects of its sensations."

Höffding says, "Feeling might, perhaps, be defined as that in our inward states which cannot by any possibility become an element of a percept or of an image. It is an inner illumination which falls on the stream of sensations and ideas." Prof. Ward writes that Feeling "is not in itself a presentation, but a purely subjective state."

Herbart's theory is somewhat different. A sailor boy, after a long voyage, is returning home. By night he dreams of his father's cottage, by day the image of his mother floats before his eyes; he hears voices of welcome even in the sighing of the wind. The day arrives, he lands, catches a glimpse of the familiar glow of the fire-light, hears his father's voice, the door opens—he is at home. The throng of presentations, with which he has lived for months, receive a sudden accession of strength by the presence of similar sense-impressions; he *feels* intense pleasure.

But suppose a different case. The same boy is again returning, flushed with the same expectations. This

time the light in the window is absent, the door is shut, the cottage is empty, for Death has been in his home. The throng of happy images receives a sudden terrible check, and is pressed back as it struggles into consciousness. He feels intense pain. The life of the soul, says Herbart, is one of ideas; every furthering of them is at the same time a promotion of the life activity of the mind; every arrest of ideas is also an arrest of soul life. A feeling is the consciousness of an arrest or promotion of those ideas which at the time predominate in consciousness. *Mixed feelings* are "really only oscillations of quickly changing contrasts of feelings, whose rapid *succession* appears as co-existence." Everyone knows what it is to feel pleasure that is bitter and torment that is sweet. "Parting" may actually be "such sweet sorrow."

Before we pass on to Herbart's theory of volition, a few words are necessary on the state of desire. It has been said that "desire is distinguished from feeling in that it does not, like the latter, indicate a single momentary condition of thought, but a passing through several such conditions, *i.e.*, a *movement*. Single cross sections of this movement are feelings." Desire may be defined as a state of mind struggling towards bringing about another state not now present. In extreme thirst, the idea of water, looked upon as the satisfaction of desire, is arrested; impulse strives to shake off the unpleasant state of arrest, *i.e.*, to obtain complete mastery over the object. Desire is perfected impulse; it has been said to resemble the sea, having ebb and flow, but no absolute rest; the perfect satisfaction of it is ideal. It may range from scarcely perceptible pain up to a height approaching madness; satisfaction only produces a pause. Sir Walter Scott speaks of it thus:—

"This is the course and the end of human wishes. They are produced by trifles, inflamed by imagination, and nourished by the breath of hope, until they finally consume what they have kindled, and the man with his hopes, passions, and wishes sinks into one contemptible heap of ashes."

The content of desire is *only* an idea. Although we commonly speak of Macbeth desiring the throne, that complex psychic state for which his soul was struggling was obviously nothing external, but merely the sensations and percepts caused by the idea of royalty. "Ignoti nulla cupido." We can, then, only desire the unknown, in so far as we long to bring into greater clearness certain elements in our *idea* of it which are already familiar.

In Letter XVII. Herbart strikingly brings out how this bears on the awakening in children of a craving for *new* knowledge.

We pass on now to volition. Desire becomes will when it is associated with the idea that its object can be attained.

A student, for instance, desires to take a degree, but time and means seem too limited to make it possible. Still his mind dwells on the subject till the following series is formed. An evening class might be practicable, for which money could be spared through self-denial. By helping a less able fellow-student a step further is attained; the fees earned make further advance possible. Diligent work attracts the professor's notice, and suggestion is made of a scholarship. An examination, which some time ago seemed hopeless, is mentioned to the student; the path to the degree suddenly becomes clear, and now he *wills* it; desire has passed into volition. We see, too, in this illustration that frequently, as Herbart says, it is action "which generates the will out of desire." We cannot will the possession of that which we see no means of attaining. The question is, how far can imagination

supply images of the necessary actions? The general *desires* a victory; he proceeds to act tentatively and with caution: a march here, a counter-march there, scouts posted, soldiers encouraged, etc.; then suddenly a complex series of movements presents itself that will entrap the enemy, now he *wills* to conquer.

> "The great man acted long before in thought; he *felt* himself acting, he saw himself advancing before the *external* act, the facsimile of the internal became visible. A few passing attempts in performance, proving in reality nothing, suffice to change a flattering faith into confidence that he will be able to realize in act what he sees with inward clearness. In order to create a firm volition this courage supplies the place of the act."[1] "Whoever then says, 'I will,' has already conquered for himself the future in thought. He already sees himself achieving, possessing, enjoying."[2]

Much, then, depends on the versatility and richness of mind in him who desires, for the clearer the insight as to the attainability of the object, the stronger the will. There is another side to this, as Herbart has also brought out. "Unhappy are they who are wanting in power when they *will* something great. The path of destruction is the course of education reversed. *Dejection which becomes habitual is consumption of the character.*"

Once convince a child that the task set is too hard, that he *cannot* do it, and the power is gone; desire may still linger, but the great factor in success, *a firm will*, is absent. Hence the danger of the secret fear of a new subject, which Herbart describes in Letter XVI.; hence, too, the strangely disastrous effects of a discouraging manner. The teacher's great object is to produce an "inward facility" for attaining certain ends; if doubt arises, it means the entrance of a new

[1] HERBART's *Science of Education*, p. 12. [2] *Ibid.*, p. 211.

presentation, which arrests those already in consciousness, and half the vital energy will be squandered in the struggle. In Bunyan's picture of the battle with Apollyon the arguments of the fiend were simply these: "Thou art *mine*, my subject, my slave, thou *canst* not escape, the Celestial City is not for such as thee; back then to the City of Destruction." But the "fiery darts" were hurled back by the shield of *faith*, for belief in the possibility of attainment is irresistible. Where there is a will there *is* a way.

In its ethical bearing the importance of this principle cannot be exaggerated. There are authors who depict a world wherein some *cannot* do right. The affections are too strong for a man, say they, he cannot control hate and love; even if his passion do bring disaster and ruin he is to be pitied rather than blamed. What does this mean? Can the Judge of the world be sleeping, or are we automatons, the victims of circumstances, so that Gloucester is right—

> "As flies to wanton boys are we to the gods,
> They kill us for their sport"?

The play of *King Lear* has another meaning than this. "*Whatsoever a man soweth*, that shall he also reap."

> "The gods are just, and of our pleasant vices
> Make instruments to scourge us."

The old king must suffer, Edmund must die, because we *can* do right and God is just.

But it may be suggested, does not all this tend to foster a spirit of self-sufficiency and of unbounded confidence in personal power? May not that be misplaced, and therefore end in hopeless dejection? The intellectual danger here is a real one, and the warning for the teacher is clearly against setting lessons which are actually beyond the strength of the pupils. The

latter begin confidently, perhaps, but they grow sorely disheartened if failure is prolonged, and faith both in their own ability and the teacher's judgment wavers.

On the other hand, the ethical vista opened out by these thoughts is very striking. It often explains the victory of the vanquished, the triumph of apparently the weakest and the humblest of mankind. Is not this the secret of men who have had a "mission"? Let a man once be convinced that a thing is right, and that God has appointed him to carry it out, then, no matter the difficulty or the danger, he is immortal till his work is done; and such may be even a weak man's confidence in the possibility of attainment, that no human power can stand against it. Let anyone believe that in the great battle of life he is at the post appointed by the General, that he is on the side of the force which makes for righteousness, and that man is lifted above the fear of defeat or failure. What matter if the counter-marches do seem perplexing, and the sound of retreat rings in his ears; what matter if the mists of death gather thick over the field, he fears nothing; the *end* is certain, and at the roll call of the morning watch he will answer to his name. For when "confidence in the possibility of attainment" passes beyond the human, and lays hold on the unseen God, there *is* no failure.

> "He always wins who sides with God,
> To him no chance is lost;
> God's will is sweetest to him when
> It triumphs at his cost."

The forces of the universe pressing in on the monad of the soul may be very strong. To some men they have seemed as the whirling of the potter's wheel under the helpless clay;[1] to others as the strange

[1] See R. BROWNING in *Rabi Ben Ezra.*

and perplexing difficulties of a long journey;[1] to others as a host of armed and dangerous foes which plot destruction.[2] And all men have felt that the last step is as a plunge into a river, or as nearing

> "The power of the night, the press of the storm,
> The post of the foe;
> Where he stands, the arch fear in a visible form,
> Yet the strong man must go:
> For the journey is done, and the summit attained,
> And the barriers fall;
> Though a battle's to fight ere the guerdon be gained,
> The reward of it all."[3]

Professor James says that when a dreadful object like this is presented, the worthless among us lose their hold on the situation altogether, and either escape from its difficulties by averting their attention, or if they cannot do that, collapse into yielding masses of plaintiveness and fear. The heroic mind does differently. To him, too, the object may be sinister and unwelcome, but he faces it; he does not lose his hold upon that in life which is greater, and then in a moment all the horror is gone.

> "For sudden the worst turns the best to the brave,
> The black minute's at end . . . ."

Science and the nature of things echo the promise of the throne "to him that overcometh."

And *this* is the victory, even . . . . faith.

II. GOVERNMENT—INSTRUCTION—DISCIPLINE.

Education has three means at its disposal for the attainment of its end, viz., government, instruction, and discipline. Herbart discusses the second first, not because it must necessarily precede the other two in

[1] BUNYAN'S *Pilgrim's Progress.* [2] SPENSER'S *Faerie Queen.*
[3] R. BROWNING, *Prospice.*

time, but because it involves certain psychical considerations which require a preliminary explanation. "For the same reason that in psychology presentations were treated of before desire and will, in pedagogy the theory of instruction must precede that of discipline." Again, in the *Science of Education*, he further explains himself:—

"The circle of thought contains the store of all that, which, being intensified by interest, rises to desire, and then by means of action brings forth volition. The whole inner activity indeed has its abode in the circle of thought. Here is found the initiative life, the primal energy."

And in the *Aphorisms on Pedagogy*, when speaking of direct and indirect discipline, he says:—

"The latter is the more important, since it works on the circle of thought, predisposing that circle to adopt certain interests, and thereby co-operating in the determination of character."

I. *Instruction.*

In speaking of instruction, the first subject which must be considered is that of the Herbartian doctrine of apperception.

(*a*) *Apperception.*—"Once when the Medes and Lydians stood opposed, ready to fight a bloody battle, the heavens suddenly darkened and the sun lost its light. Then they recognized that their gods, Ormuzd and Mithras, were angry at their deeds. They thereupon lowered their weapons and concluded a peace with each other."[1]

Yet after many years, when the same thing befell another race, *they* went on with their quarrels, adjusted their telescopes, wrote columns for the journals of science, but gave not a thought to Ormuzd or Mithras. *Perception* was the same, *apperception* very different.

[1] LANGE, *Apperception*, p. 9.

The tiny inverted picture of the sunset on the retina of a Ruskin and of the low type African are identical, but do the two men *see* the same? Nay, does the one man at different times in his life see the same world? Wordsworth wrote:—

"I have learned
To look on Nature, not as in the hour
Of thoughtless youth . . . and I have felt
A presence that disturbs me with the joy
Of elevated thoughts; a sense sublime
Of something far more deeply interfused,
Whose dwelling is the light of setting suns,
And the round ocean and the living air,
And the blue sky, and in the mind of man,
A motion and a spirit that impels
All thinking things, all objects of all thought,
And rolls through all things."

But the blue sky and the sunset glow and the tossing waves were for all who had eyes to see.

"When the boy in Goethe's ballad mistakes a streak of fog on the edge of the meadow for the Erlking, a shining willow for the Erlking's daughter, and in the whistling of the wind hears the alluring, coaxing words of the water sprite . . . we are not confronted by erroneous perceptions; the senses do not deceive, not because they always judge correctly, but because they do not judge at all."

Even perception is an acquired thing, given to us by a combination of sensational and reproductive brain processes. As Reid says, "Nature is frugal in her operations, and will not be at the expense of a particular instinct to give us that knowledge which experience and habit will soon produce."

The infant goes through a long education before he can grasp the realities perceived by adults, simply because of this complexity. His mind must learn to translate and give meaning to his own sense impres-

sions. For what are these material things, of whose reality we are so sure? Sensations of a red colour, a sweet smell, a soft touch, and we say we perceive a thing of beauty, a rose; but it is *mind* which has given the unity; mind, which in presence of the one sensation, will reproduce the others; mind, which may form a wrong judgment about this real thing, which, in one sense, is its own creation.

And, strange to say, no actual fusion need necessarily take place between the sensational elements and the reproduced ideas. As we look at a thing we may feel the change in the sensations which the incoming ideational elements produce. Prof. James, in his *Psychology*, cites some curious examples:—

"This is probably the reason why, if we look at an isolated printed word and repeat it long enough, it ends by assuming an entirely unnatural aspect. Let the reader try this with any word on this page. He will soon begin to wonder if it can possibly be the word he has been using all his life with that meaning. It stares at him from the paper like a glass eye, with no speculation in it. Its body is indeed there, but its soul is fled. It is reduced, by this new way of attending to it, to its sensational nudity. We never before attended to it in this way, but habitually got it clad with its meaning the moment we caught sight of it, and rapidly passed from it to the other words of the phrase. We apprehended it, in short, with a cloud of associates, and, thus perceiving it, we felt it quite otherwise than as we feel it now, divested and alone."

But we may have a still more curious proof of this. The following illustrations are also taken from Professor James' *Psychology*. Let the reader take them in order of difficulty, and notice carefully his *first* impressions of (1) and (2) before proceeding further. Now, if figure (1) has appeared to him a cut diamond, and figure (2) as a tub upside down on

the floor, let him try to see (1) as a transparent glass box, and (2) a tub right way up. It can be done by the mind changing its conception of the distance from

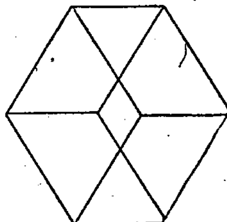


Fig. (1).

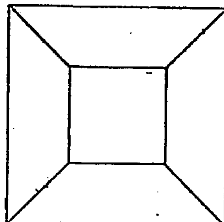


Fig. (2).

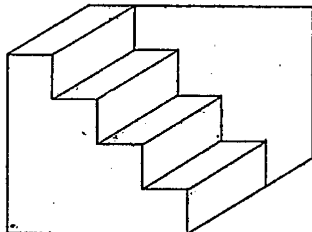


Fig. (3).

the eye of the central lines in each figure. Figure (3) is much more difficult; in a large class nearly all easily saw a solid block of steps. When asked if they could change the idea, and imagine themselves looking at a

flight of stairs upside down, very few could see it. When the lecturer had passed on to other subjects, a sudden involuntary exclamation startled the class; the second perception had at last come to another student, greatly to her own surprise. If the reader has any difficulty in forming this second perception he can generally obtain it by trying to mentally draw out the lines where the stair rods would be, as if they were actually nearer the eye than the edge of the stairs. It may also be seen by looking at the figure inverted.

We are now in a position to explain many so-called sense illusions. Let *A* be the group of sensations of colour, form, temperature, and resistance, produced by a white marble monument. Let (*a*), (*b*), (*c*), and (*d*) respectively represent these four attributes. A nervous youth, passing through the churchyard by moonlight, is aware of (*a*) and (*b*), which ought immediately to call up (*c*) and (*d*). But they do not. They call up other strong ideational elements, reproductions of the legend of the murdered lady, whose story was read the night before. In an instant *she* is before his eyes, and not a moment does he pause to correct the error. He takes to his heels, with the wailing of the ghost, (or the sighing of the night wind?), in his ears.

Thus, when our minds are full of anything, or any person, the slightest similarity in an impression may produce a mis-translation or illusion of the senses. As Professor James puts it, "Twenty times a day the lover, perambulating the streets with his pre-occupied fancy, will think he perceives his idol's bonnet before him." Imagination is thus constantly playing tricks with our "sober senses." Work is pressing, and we have given orders to be called at five o'clock. The knock comes, and we rise with the weary consciousness of how tired we are. Suddenly the clock strikes seven, we have slept peacefully for eight hours, and the weariness changes to vexation at the lost time and

the faithful servant! We tend to feel as we think we ought to feel, to see what we expect to see.

But let us take Herbart's careful analysis of these phenomena.

Suppose one of the simplest forms of sensation enters consciousness by the gates of the senses; that is, a new object in the outside world produces a certain nervous commotion in our organs of sight, touch, and smell; these are translated by the mind into sensations of whiteness, a soft yielding surface and a strong sweet odour. The *first* effect caused by this entrance of the new will be to stimulate the ideas already possessed by the mind. It will repel what is unlike, and will attract all that is similar. In this case other concepts of flowers will be stimulated into activity, and the class *lily* will be brought into special prominence. At this stage of the process the new comer is undoubtedly the most powerful influence in consciousness.

Herbart compares it to a light coming into a dark place, and casting its rays all around. The stimulated ideas rise up round it like the arched vault of a cavern.

But the second stage begins with the steady arrest of all the less similar ideas which at last allow only the perfectly similar ones to come forward. The images of one flower after another are thus checked, till only lilies of a particular kind hover into consciousness. What we are losing in quantity and breadth we are gaining in intensity and vividness. Or, to compare it again with the light in the cavern, the similar ideas are now like the walls rising up to a high point and forming the apex of the arch; the irrelevant ideas retire into the background; the light, from being diffused, is now focussing.

Lastly, the new perception takes its place among the old ideas; we recognize the flower as the familiar lily of the valley, and there is to some extent a fusion of the new with the old. This is what Herbart means by

the "vaulting" and "tapering" of presentations in Letter XVII., and it is his clear analysis of this process which has opened out the way for so much subsequent research. In the assimilation, then, of new knowledge, all depends on the presence of similar elements in the concepts which already exist in the circle of thought; these will have to act as our apperceiving factor. When the mental life is rich, perception is always accompanied by apperception, and the latter occurs with special rapidity if these old and similar elements already stand high and clear as ruling ideas. As Lazarus says, in this case, apperceiving notions are "like armed men in the strongholds of consciousness, ready to hurl themselves upon everything that appears at the portals of the senses, overcoming and making it serviceable to themselves."[1]

One important point remains to be noticed. It is the *old* ideas which are really the most powerful, and which retain control over the mind, and that for two reasons.

1. The new percept loses its power as its stimulating force subsides; in other words, the novelty wears off.

2. The old ideas in the mind are generally stronger because of their old established connections.

The result of all this is that the new takes its place in the older series, it is adjusted to the system already in the mind. As Professor De Garmo expresses it, "Apperception is then in general the process of giving significance to facts by relating them to our more firmly established knowledge." He then proceeds to draw our attention to Figure 1, pointing out that though we could all probably describe the lines, we at first sight see no idea, no purpose in the whole. If we are

[1] Quoted in Lange's *Apperception*, p. 15.

reminded, however, that a painter once boasted that he could by means of three lines represent a soldier and his dog entering an inn, some will at once associate the meaningless marks with a system of ideas, because *mind instantly supplies the missing details.*

Another example may make this plainer. An air is played on the organ; it is something familiar, but we cannot give it a name; it stimulates the activity of the mental content. As it is on the organ, images of various churches come into consciousness, only to be arrested as unsatisfactory and irrelevant. Suddenly Westminster Abbey appears; yes, that is somehow connected; it may stay. Thus stage II. is reached; the vaulting gives place to tapering, as ideas cluster definitely round the concept of the old building. A certain winter afternoon, Sunday, the crowded Abbey, the fading light, the preacher's text, all hover into consciousness. Some of them are rejected as irrelevant, as the tapering centres on the service, the anthem, the voluntary—there, you have it. Stage III. is reached. The air is from an oratorio, and fusion takes place with its satisfactory identification.

Fig. (1).

And now probably the new ceases to be the most prominent thing in consciousness, as the mind wanders off to the associations connected with an oratorio which has been known for years. This brings us to some details which have been much worked out by Herbart's followers.

A fairly weak series of ideas may, by virtue of their novelty and stimulating force, overpower the old; but ultimately the victory will remain with that which is deeply rooted in consciousness. For instance, an old friend acts in a way which seems strange and unpleasant.

It is inconsistent with our concept of his character, and is painfully prominent at first in the mental world. But, as we bethink ourselves, a change comes; the old faith asserts its sway and we do not send the indignant letter; extenuating circumstances, the probability of mistake, the possibility of explanation come forward, and we are wont to say that now we see the thing in a new light. No, in this case, it is not anything *new*, it is the *light of our past;* we see now what years of intercourse have prepared us to see.

In connection with intellectual development, these facts may have an unfavourable aspect. As Professor James brings out, every new experience must be disposed of under *some* old head. "The great point is to find the head which has to be least altered to take it in." So our education is a ceaseless compromise between the conservative and the progressive factors. Very few can form new heads readily even to receive fresh experiences. "Most of us grow more and more enslaved to the stock conceptions with which we have once become familiar, and less and less capable of assimilating impressions in any but the old way. 'Old fogyism,' in short, is the inevitable terminus to which life sweeps us on. . . . . Genius means little more than the faculty of perceiving in an unhabitual way." These words should be specially compared with Herbart's remarks on "rigid minds" in Letter XVIII.

But this also seems to explain much of the loneliness of human life. Two are together in one house, yet they live in different worlds. There is only one key to the locked door into another soul. That is love; and it *can* do much, for by the magic of sympathy we may *feel* what another is feeling, even when the apperceiving factor, that is, the knowledge of the cause of the feeling, is very imperfect. But even then, how little we know, even of those nearest to us. "Let it be your method," said Marcus Aurelius, "to contemplate spirits apart from the shell they are shut up in." But life is short, and the method difficult. If we misunderstand ourselves, and fail to translate the signs of the microcosmus, how great are our mistakes with regard to each other.

> "So near, and yet so far apart,
> No silver link of common speech
> To bridge the shadowy space across
> That separates us each from each.
> We move on lines that never meet,
> We never touch each other's life;
> Unknown, unread in tone or look,
> The token of a hidden strife."

Sometimes we miss much by this inability to enter into other lives: the strength of sympathy for ourselves, the more blessed opportunity of strengthening others. But when all is done that is possible, we live alone, and alone we die.

The senses furnish much the same characters to all; to the one they are dim hieroglyphics, to the other they are full of meaning and beauty.

> "All that meets the bodily sense I deem
> Symbolical—one mighty alphabet
> For infant minds, and we, in this low world,
> Placed with our backs to bright Reality,
> That we may learn with young unwounded ken
> The Substance from the Shadow."[1]

What if Coleridge's figure were the actual truth? He is thinking of Plato's cavern prisoners, who, chained with their backs to the firelight, could see only moving shadows and hear only echoes. Some were satisfied that that was all there was in the universe, but Socrates suggests that at last a prisoner was freed. He came up out of the darkness into the sunlight, and then he saw things as they were.

[1] S. T. COLERIDGE.

At present the only medium between mind and the *macrocosmus* is the body, and the limitations and possibilities of error are many. But *hereafter*, . . . it may be that Science is silent, but there are not wanting

> "August anticipations, symbols, types,
> Of a dim splendour ever on before";

It may be we too shall find

> "The low dark verge of life
> Is but the twilight of Eternal Day."

"*To die*, is gain." How much that may mean.

Lazarus has worked out yet another development. It is possible for a man to be unconscious of the masses of old ideas which are really controlling that which he apperceives. If the question arises, how can we fail to notice such an important factor in the mental world, we can only answer that human obedience to the old Greek maxim, γνωθι σεαυτον, is more limited than we imagine. Professor Ward has a curious passage in point in his article on psychology. (*Encyclo. Brit.*)

He points out how vague at best is our concept of self: we see little bits at various times, but even then the greater part is in shadow. Masses of feelings and ideas may be gathering of which we are very dimly conscious, and when the sudden call to action comes we do that which surprises ourselves. This is a generally recognized fact as regards feeling; it has been less noticed that the same law applies to thought.

Do we realize in teaching that we are definitely forming a circle of thought in a child's mind, which will not only influence his present attainment, but will actually control what he *shall* apperceive as life goes on? There are many perceptions which are not apperceived at first. There is desultory talk which

seems to sleep in deaf ears; things which enter the deep chambers of memory, and wait, sleeping, till years after, another percept wakes them, and they come forth and have to be reckoned with. It is rash indeed to trust to the annihilation of a thought. We know Jean Ingelow's legend of the dead year—how she buried the thing in state, and laid her dead out of her sight, and thought it was safe in its marble shroud, never to wound her again with its memories of pain.

> "Year, I said, and turned away,
> I am free of thee this day;
> All that we two only know
> I forgive and I forego,
> *So thy face no more I meet*
> In the field or in the street."

But it could not be. The dead drew the living into the rock-hewn tomb; for the soul and its past are one.

We think we look at a new thing fairly, but the dominant ideas, "the armed men in the stronghold of consciousness," seize it, and place it where they will.

So on purely scientific grounds we reach that which men have called judicial blindness—incapacity to see the right. *Lack of knowledge* at first sight appears a plausible excuse for human failings. Yet "I did not know" may mean either "I never had the opportunity of learning or the capacity to grasp this thing," or, "I once had the chance, but I refused to follow the light I had, *i.e.* I shut my eyes." The first excuse is certainly applicable to the insane, and possibly to many of the heathen; but no one man can speak definitely for another. The second ends in judicial blindness, because by natural law, if the soul forms a *low-toned* circle of thought, the faculty for the apperception of spiritual beauty becomes proportionately weak. The converse is equally true. Train the mind to see the loveliness of nature, and you will form an apperceiving

factor for art; train it in the apperception of causal relations, you will form one for science. Train it in the perception of moral truth, to follow the light as far as it is seen, and you will develop an increased capacity for the vision of absolute perfection. To refuse one ray of moral light is to diminish our chance of seeing the next.

Wordsworth says of one:—

> "His high endeavours are an inward light
> That makes the path before him always bright";

and Milton also expresses it thus:—

> "I will place within them as a guide
> My umpire conscience, whom, if they will hear,
> Light after light well used they shall attain,
> And to the end persisting safe arrive."

We see some people with a strange influence for good, and in their presence others seem instinctively at their best. We explain it to ourselves by saying that such have a high standard. But a standard is that by which we measure ourselves and others—an ideal, a thing of the mind. How then did they obtain one that was higher than that of other men? Simply by following the light as it came; whensoever they saw that which was pure and lovely and of good report, they dwelt on it, and it became a part of their being. *Therefore* they see the good in all things and all men, and sin and unholiness shrink from their presence. They make men think of Plato's mystic city, whose citizens are scattered about in this world, but who feel constrained to live according to the laws of their homeland, "having nothing to do with any other." Sometimes the contrast is so sharp between them and their environment, that familiar words involuntarily occur to us: "They confessed that they were strangers and pilgrims on the earth; they looked

for a city which hath foundations, whose builder and maker is God."

The whole subject recalls two remarkable stories, the scientific depths of which have yet to be fathomed. They are tales of two Eastern lords.

One in high position was obliged to leave his dominions, and having summoned certain of his officers, possibly satraps of provinces, he left them in charge of large but varying portions of his wealth. The other also knew that he must be absent for a time, but he committed certain small equal sums to the men of his household. The owner of the property in the first case received from the officers on his return sums (according to our money) varying from about £200 to £2000, but two of the men by diligence had doubled the amounts entrusted to them. The result was an exact equality of reward of a truly royal kind—the friendship of their sovereign, and a place very near the throne.

In the second case the sums received by the owner on his return were but small. One man had raised his few shillings to about £4 10s.; another had not made so much; a third could only restore what had been given. But the rewards were poles asunder. One rose to almost royalty, another entered upon a citizen's life, the third sank to destitution.

The meaning of the first story is clear. Human minds differ enormously in point of capacity; our sense of justice forbids the thought that the work of a Newton or a Dante should be expected of all. But the second case emphasizes a less noticed fact, that in one particular every soul has an *equal* chance. No one is left without light, and the choice rests with the individual as to how great that light shall be. The dullest of intellects cannot prevent a soul rising to ethical majesty. The results, then, were no arbitrary rewards and punishments, but simply inevitable

natural law. He who had been faithful in the very little was morally fit for the royalty to which he rose. He who had neglected the small things lost even that he had, and when the time came for the great crisis,—change, judgment, evolution, call it what you will,—he sank. The master was no tyrant. The sentence which condemned the man was his own past.

It is science which reiterates that from him that hath not, even that he hath shall be taken away. Evolution, if nothing else, would thrust the unprofitable servant into outer darkness.

(*b*) *Experience and Intercourse.*

Before passing on to consider Herbart's masterly discussion of the concept of interest, a few words are necessary to explain the relation of instruction to experience and intercourse. "From Nature," says Herbart, "man gains knowledge and sympathy by means of experience and intercourse."

To dispense with them in education would be "to dispense with daylight and content ourselves with candlelight. Fulness, strength, individual definiteness in all our presentations, practice in the application of the general, contact with the real, with the country and the age, patience with men as they are, all this must be derived from these original sources of mental life." Yet "to leave man to Nature, or even to wish to lead him and to train him up in nature, is merely folly." The risks are too great, the limitations too serious. As Herbart says, "Human nature is like a ship, constructed and arranged with highest art, that it may be able to adapt itself to every change of wind and wave, but it awaits the steersman to direct it to its goal, and guide its voyages according to circumstance."

Life is too short for us to allow children to stumble painfully through the failures made by the race in past

ages. They have to live in the nineteenth century. The adjustment, then, to environment should be made as smoothly and rapidly as possible, provided the laws of apperception are never infringed. We have said that experience is seriously limited. The town child is cut off from a most important series of perceptions, and even in the country many a one fails to notice natural objects without instruction. Ufer gives as an instance that among 300 six-year-old country children 8 per cent. had failed to notice a grain field, 43 an oak, 26 had not been on any mountain, and 37 could not tell how bread is made from corn.

Social intercourse is also limited. If sympathy is confined to the family, the village, or even the fatherland, it will be too narrow.

"Ought we to conceal from ourselves how often that which is distant is more exquisitely illuminated in descriptions and drawings than the present; how much more satisfying and elevating is intercourse with the ancients than with contemporaries; how much richer in insight is idea than observation, and indeed how indispensable to action is the contrast between the actual and what ought to be?"

Again, our great object is to awaken in the child's mind a many-sided interest. But experience and intercourse are often of necessity slow and uninteresting. No doubt it is good for *us* to bear this. That which George Herbert says of a hopelessly dull sermon is true of many an important lesson in life, "God takes the text and preaches patience," and in such a case the benediction undoubtedly comes at the end. But *the pupil* should never be condemned to suffer such a thing at the hands of the teacher. "To be wearisome is the cardinal sin of instruction." This does not mean that everything is to be made easy and like play. "It is the privilege of instruction to fly over

steppes and morasses, and if it cannot always wander in pleasant valleys it can train, on the other hand, in mountain climbing, and reward with a wider prospect." The glow of triumph over difficulty may thus bring interest into the driest subject.

It is the work of instruction to analyse the masses which experience has heaped together. Herbart quaintly describes the mind of an uninstructed man as a thing wherein there is no settled top or bottom. We might add that the fact sought for generally seems at the bottom, and like an article in an ill-packed trunk, cannot come out without a good deal else. "Everything is mixed up together. *The thoughts have not learned to wait.* On a given occasion all come forward, many become excited by the threads of association at the same time, and so come suddenly into consciousness."

Coleridge observes "that in the narrations of uneducated people in Shakespeare, just as in real life, there is a want of prospectiveness and a superfluous amount of regressiveness. People of this sort are unable to look a long way in front of them, and they wander from the right path. They get on too fast with one half, and then the other hopelessly lags. They can tell a story exactly as it is told to them (as an animal can go step by step where it has been before), but they cannot calculate its bearings beforehand, or see how it is to be adapted to those to whom they are speaking, nor do they know how much they have thoroughly told and how much they have not. 'I went up the street, then I went down the street, no, first went down, and then—but you do not follow me; I go before you, sir.' Thence arises the complex style usually adopted by persons not used to narration. They tumble into a story, and get on as they can."[1]

[1] Bagehot, *Literary Studies*, i. p. 145.

(*c*) *Interest.*

It is the work of instruction to supplement and not supersede experience and intercourse. "I confess," says Herbart, "to have no conception of education without instruction, just as on the other hand I recognize no instruction which does not morally educate."

"Character forming is will training. The will springs from the thought-complex which instruction has to form. The educative value of instruction, then, consists of the influence which it shows with respect to the will."[1]

Some so-called instruction forces upon the child a number of facts in which he really takes no interest. Obviously no energetic volition will be the result of such a process.

But interest itself may be of two kinds. We sometimes demand interest in a subject simply because it will facilitate the acquirement of knowledge. Slater's "method," explained in a small book published some thirty years ago, is a case in point. Each of the nine units is represented by one or more consonants, and odd little sentences are drawn up with reference to each date, wherein the initial letters of the words give the key to the figures required. We give a few examples:—

Now Semiramis, Beautiful Sinner
2 0 8 0

They Contrived a Balloon and Rose up
1 7 8 4
(The first balloon experiment in London)

Try Which of us Lacks Pluck
1 8 5 9
(The Volunteer Movement)

This is a Most Ruinous invention, Swartz
1 3 4 0
(Invention of Gunpowder)

[1] Ufer's *Introduction to Herbart*, p. 58.

The psychology of the thing, of course, is that the sentence arouses interest, and can easily be connected with the fact, whereas the bare date was dull and unpalatable.

Many other methods come under the same heading, *e.g.*, counting with brightly-coloured beads, singing the multiplication table, etc; in fact, whenever interest is used solely for the purpose of acquiring knowledge, with no necessary connection with the subject in hand. We notice that this, which Herbart calls receptive interest, does not ensure that the facts thus acquired will be utilized, nor has it necessarily any effect on volition. Of quite another kind is apperceptive or investigating interest. A child attends a first lesson on botany, and an interest in nature is aroused. On his walks he collects flowers, in the holidays he adds to his specimens, till the taste becomes a passion, and the schoolboy develops into a scientist. In a lesser degree this is constantly happening, and thus investigating interest becomes the root of desire and volition.

Herbart enumerates its four characteristics thus. It is—

I. *Far-reaching;* as it ever seeks to extend the knowledge gained.

II. *Immediate;* it is its own reward. "Alas! for that kind of activity which makes us impatient for the end, instead of rejoicing by the way." If the work is only done for the sake of passing the examination or gaining the prize, it is psychologically in vain.

III. *Many-sided.*—"The mind's interest depends on the strength, variety, novelty, and varied succession of . . . phenomena."

Here comes in the danger of a too early specialization in any subject; the specialist is inclined to see

things out of proportion; he lives in his own little sphere of thought; other men's lives appear to him small and distorted, his own immoderately important. The youngest Fellow of Trinity is too apt to think himself the prop of the University. "The earth is weak, and *I* bear up the pillars of it," is the mental attitude of some, who would not after all be greatly missed.

This explains the beauty of character which is sometimes seen in the old, as distinguished from the young. The former realize how vast and brilliant truth is, and how here at best we see it broken into the prismatic rays. As we draw nearer the larger life, it dawns upon us that *all* the scattered colours must unite before the glory of pure white light can really shine.

Herbart distinguishes six kinds of many-sided interest. Three arise from knowledge and three from sympathy.

From knowledge we get—

1. Empirical interest, aroused by experience and the observation of phenomena.

2. Speculative, which arises through a consciousness of the mysterious relations existing in nature, and leads on to the investigation of causes and origins.

3. Æsthetic, aroused by the perception of the beautiful in nature, art, and morals.

From sympathy we get—

4. Personal interest, attaching itself to the sorrows and joys of individuals.

5. Social, aroused by sympathy with the family and the nation.

6. Religious, which embraces interest in the destiny of the human race and its relation to God.

We give as an illustration of this the chief points in a lesson on the life of Sir Philip Sidney.

The forms of interest derived from *knowledge* are:—

1. *Empirical*, aroused by the presentation of details concerning Sir Philip Sidney's life—his bravery, personal beauty, adventures at court, in camp, in battle, etc.

2. *Speculative*, aroused through considerations of cause and effect—why he felt so strongly against Spain and the Pope, why he went to the Netherlands, etc.

3. *Æsthetic*, aroused by admiration for "this flower of knighthood," the noblest type of the Englishman of the age.

Those derived from *sympathy* are—

4. *Individual and personal*, aroused by sympathy with the chivalrous soldier, who threw off his armour so as to have no unfair advantage over his foe; with the wounded man who gave up the only draught of water to a dying comrade, etc.

5. *Social*, aroused by sympathy with the sorrow of the nation at the death of their hero; sympathy also with the national appreciation of his goodness.

6. *Religious*, aroused by sympathy with the race in its progress, as shown in the development of such a character; also by the consideration of the religious forces of the age, and the fact that religion was the ruling principle in Sir Philip's life, etc.

The last characteristic of many-sided interest is that it should be—

IV. *Well-balanced*.—The advance of modern science, tending more and more towards the discovery of a deeper unity in nature than we have yet dreamed of, must be a special warning against that narrowness which refuses an all-round study of phenomena. We

are beginning to realize that a one-sided education is not only loss as regards that which it omits, but is also actually detrimental to the one study in which it specializes. In other words, no amount of knowledge will make up for the lack of wisdom, which may be the result of neglecting certain mental functions, and allowing them no opportunity of development.

Herbart, however, warns us also against the opposite danger. Many-sidedness must not degenerate into frivolity. An enlarged curriculum, over-competition, the pressure of nineteenth-century life, must not hurry us into the position of "Jack of all trades, master of none."

"Shall we, to avoid one-sidedness, plunge into frivolity? The frivolous man is a new person every moment, or, at any rate, the shades of character in him appear to change, for he himself is properly a nonentity. He who always yields to impressions and fancies has never possessed himself or his surroundings; the many sides are not there, for the personality of whom they must be sides does not exist."[1]

Herbart speaks elsewhere of a mind "scribbled over" by the confused markings of an ever-changing environment. One might be tempted to wonder with Carlyle, whether, when the *clothes* drop away from it, and the vesture of mortality falls, there will then be anything left by which we may recognize the poor frivolous little soul!

Our reading is too often so "scrappy," the demands on our attention so frequent, even the claims on our help so pressing, that at first sight it seems hardly right to refuse response. But the real question surely is, How may we *best* serve our day and generation? True, life is short, but for that very reason it demands the best, the deepest that is in us, and if we would give *that* we must have time to be ourselves.

[1] HERBART's *Science of Education*.

Hence Herbart emphasizes the need for what he calls concentration (*vertiefung*) and reflection (*besinnung*):—

"He who has at any time given himself up *con amore* to any object of human activity understands what concentration means. It takes place when presentations are successively brought into consciousness in sufficient strength and purity without obstructions. *Besinnung*, or reflection, is the collecting and binding together of these presentations. The more perfectly and purely these operations are performed the greater will be the success of instruction."

Since we are finite we require concentration, which demands the banishment of irrelevant matter. It is all important that a child should be able to concentrate attention on some particular thing, to the temporary exclusion of all others.

Since we are personalities we require reflection, lest we should lose ourselves in our subject. The acts of concentration mutually exclude each other; they must be united by subsequent acts of co-ordinating reflection. They thus are set in order in their relation to each other and to the personality.

These two processes, *vertiefung* and *besinnung*, form the act of mental respiration, and must always alternate with each other. For illustrations of their practical use, the reader is referred to the specimen lesson, pp. cxix, cxx. They bear an important relation to interest on account of the dependence of the latter on clear and bold outlines.

Three very important practical points in the Herbartian theory of instruction remain to be discussed.

(*d*) The choice and arrangement of the material of instruction, or *The Culture Epochs.*

(*e*) The co-ordination of material for instruction and the connection between its branches, or *Concentration.*

(*f*) The treatment of the subject matter, or *The Formal Steps.*

(*d*) *The Culture Epochs.*

The first maxim in the selection of material for instruction has been thus formulated by Professor Rein:—

"Only that should be subject matter which is able to awaken and chain the interest of the scholars. Only such material should be chosen as must necessarily awaken a spontaneous permanent interest in every child of normal mental endowments."

But, as we have seen, one of the psychological conditions of interest is the recognition of similarity, and this demands the most exact consideration of the stages of apperception. Goethe puts it thus: "*He* could be genuinely æsthetic-didactic who could enter with his scholars into all that is worth feeling, or could bring it before them exactly at the moment at which it culminates, and when they are most highly sensitive." Elsewhere he states still more clearly: "The human mind receives nothing which does not suit it." Shakespeare also pointedly emphasizes this fact in his mysterious conception of the supernatural in Macbeth. There the same appearance is before the eyes of two men. Banquo even sees the witches *first*, and looks curiously at their strange forms. But they are *nothing to him.* To Macbeth they are full of meaning; they shake his "single state of man," and the reason is that they, like the phantom dagger, only marshal him "the way *that he was going.*"

Goethe noticed also another fact: "Although the world in general advances, the youth must always start again from the beginning, and as an individual traverse the epochs of the world's culture"; that is to say, in our search for subjects of interest we must bear in mind the psychological law that mental de-

velopment in the race and in the child follow the same lines. To again quote Dr. Rein:—

"The material and the formal points of view coincide. A people does not stand at once upon a definite height of culture; centuries of zealous and unwearied labour are necessary before the height can be reached. It must climb up from lower to ever higher stages; it must pass from simpler to ever more complicated relations in order to satisfy the bent for improvement and the realization of the kingdom of God upon earth. And the individual, the same as the people, rises in his development from lower to ever higher stages, from simpler to ever richer mental contents, if only his ideal tendency be not smothered by material sensuality, or by the feeling that he has already attained a fine height."

But is there a real analogy between the development of the race and of the child?

The history of language and its expression is a remarkable corroboration of the theory.

Vision in the child is undoubtedly first directed outward. External objects are the subjects of attention long before internal processes. The first words are the names of the immediate surroundings of home—father, mother, food, natural objects, furniture, etc. But philology now takes us back to the childhood of the race. It tells us that most of the European languages have been developed from Indo-European—the speech of a great pre-historic tribe which probably lived near the Himalayas. By a careful comparison of cognates, we can trace the ancient roots running through the whole family—Celtic, Latinic, Hellenic, Teutonic, etc., etc. They prove to us that the farther we go back the more presentive language becomes, and the less symbolic; that is, there are words, and in some cases signs, for the sensuous and the visible, but no terms at all for the abstract and invisible. Hence *all* our abstract terms are derived from the names of objects of sense.

The Greek ψυχή, the Hebrew *nephesh*, the Latin *anima*, the French *âme*, all meant originally "breath." Soul signified first that which flows, and hence it came to mean moving power. The abstract idea of a non-material being was almost inconceivable to the Homeric mind, as it is to the child's of to-day.

"With Homer the ψυχή is only the vital force personified, an ethereal body within one that is material, separable from the latter, and existing as a shadowy form (εἴδωλον), a figure in a dream, or a column of smoke (*Odyssey*, x. 495, xi. 222); the visible body is the real man (*Iliad*, i. 4, xxiii. 65). As soon, therefore, as the shades in Hades have drunk *blood* consciousness returns again to them (*Odyssey*, x. 494, xi. 220), so that they again feel pleasure, pain, love and hatred."

The soul of the Trojan hero descends to the shades, but *he himself* is a prey to dogs.

Probably the same bewilderment possesses the mind of the thoughtful child of to-day when he hears us speak of death. He is told, perhaps, that "mother" is gone away to that "happy land" of which his hymns speak; but he *sees* a grave covered with flowers, and, even if the actual sight of death is kept from him, the question soon arises, "How did mother go? She *was* ill; how did they take her?" It remains a mystery to him, partly because mental development is not sufficiently advanced.

The symbolic expression of language affords another striking illustration. It is, of course, a highly conventional and abstract idea to use the forms of the alphabet as symbols for certain sounds. The actual origin of our letters will probably never be satisfactorily traced, but there can be no doubt that they began with something much more definite than they are now. The inverted head and two horns of an ox is probably the origin of our A (ᗅ), and the Hebrew Beth ב (B) certainly suggests its supposed earlier meaning of house.

Plate I. is a set of examples from other primitive languages. In Fig. 7 (the Turanian sign of an open hand) we have a case of the ideogram, which was simply the picture for the thing, developing in course of time into the ideograph or symbol for the abstract idea of seizing, possessing, and understanding.

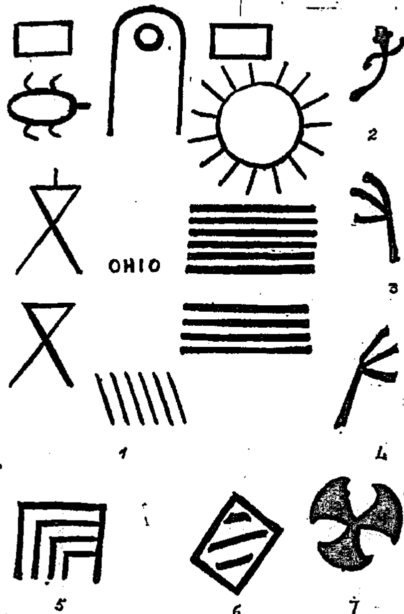
In Figure 1 we have an inscription found upon a tree in Ohio. It was probably cut by Indians, and commemorates a battle with the English. On the right we have depicted an engagement of six days' duration; underneath one of four. To the left we see a fortified camp, near which is a tortoise, denoting security. Below are six Indians on the war-path; and, lastly, there is one Englishman *with a head*, and another somewhat significantly without one.

It is, however, in the Egyptian hieroglyphics, Plates II.–V., that we get the most complete example of the development of language and the remarkable similarity in this respect between the child and the race. The latest research shows that primitive Egyptian was purely monosyllabic and without inflexion, being written simply with ideographic signs; that is, it had a stage parallel to that in which the child only names the objects round it. The first step towards inflexion was the use of substantives in symbolic senses for prepositions and adverbs, the primitive ideographic signs being still sufficient for the purposes of writing.

Later we see the usage of phonetics coming in, followed by ideographs, which are employed as determinatives. The highly abstract ideas which are thus symbolized are worthy of special notice. The simple picture of the man squatting and eating (II., Fig. 14) has become the symbol for speech and thought; while the calf's head may denote breath, sleep, or pleasure.

The connection between 9, 10, and 54 should be noticed. The first, representing a curl, also conveyed

PLATE I.

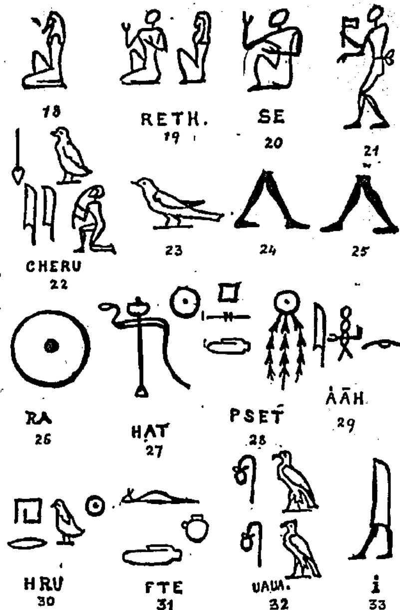


1. Indian inscription found upon a tree in Ohio. *Subject*: An engagement with the English. 2. Chinese, representing a child.
3. Chinese, representing "right." 4. Chinese, representing "left."
5. Turanian (Accadian), representing a house.
6. Turanian (Accadian), representing a town.
7. Turanian (Accadian): i. Ideogram for open hand; ii. Ideograph for seizing, possessing, understanding.

Plate II.

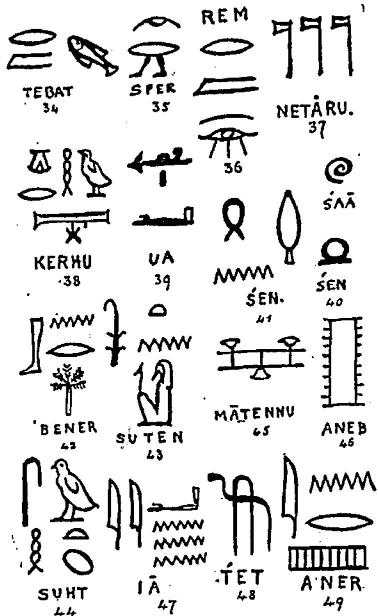
1-4. Hieroglyphic inscription, meaning "to become weak, feebleness, etc." After words implying anything evil, the generic determinative of evil (5) follows.
6. Calf's head or face. *Determining ideas*—nose, nostril, lungs: to smell, breathe, sleep; pleasure, to separate, shut up, revolt.
7. (6) used as ideograph in Sent=nose.
8. The eye follows anything connected with that organ, *e.g.*, Kat=sleep.
9. Curl. *Determining ideas*—hair: black, colours in general, grief, turns.
10. Sennu=hair, followed by ideograph (9).
11. Man raising hands. *Determining ideas*—adoration, invocation, prayer.
12. Qa=height. 13. Tebhu, prayer.
14. Man squatting, his hand to his mouth. *Determining ideas*—actions of the mouth, eating, speech, thought.
15. Hittite hieroglyphs, representing a god.
16. Child, hand to mouth. *Determining ideas*—infancy, youth, education, renewing. 17. Nechen=a babe.

Plate III.



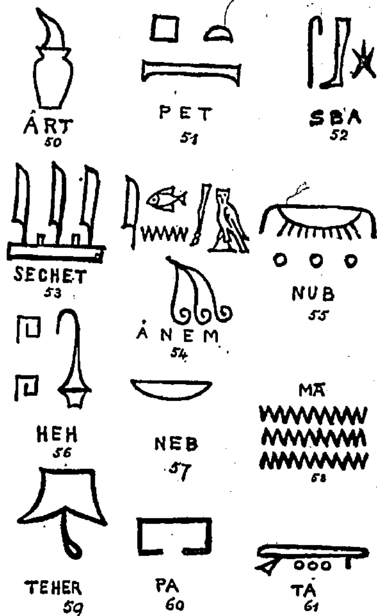
18. A seated, bearded figure: the generic determinative of gods.
19. Reth=mankind. *Determining ideas*—Human race: its divisions, classes; participles in the plural. 20. Se=man.
21. Man stamping and striking himself. *Determining ideas*—impiety, perversity, nemies.
22-23. Cheru=enemy. Followed by the determinant of evil, the bird (5).
24. Legs, walking, significant of actions and locomotion.
25. Legs, returning. *Determining idea*—send back. (See 33 and 35.)
26. Ra=the sun: generic determinant of light, time, and its parts,
27. Hat=light, followed by 26 as determinant.
28. Pset=shine, followed by 26 with rays.
29. Aah=Moon. 30. Hru=day, followed by 26. 31. Fte=faint.
32. Uaua=think; is also followed by the determinant of the man (14).
33. Verb I=to go: showing a singular coincidence between the Egyptian, Turanian, and Aryan roots.

Plate IV.



34. Tebat = a fish. 35. Sper = approach.
36. Rem = weep: the three strokes representing tears.
37. Netaru = gods: the plural is formed by thus repeating the hieroglyph thrice. 38. Kerhu = night. 39. Ua = one.
40. Saa = one hundred. Sen = ten million; also eternity.
41. Sen = a tree. 42. Bener = a palm tree.
43. Suten = king: a figure bearded like the gods.
44. Suht = egg, followed by its ideograph.
45. Matennu = roads, with the lotus flower growing on each side.
46. Aneb = wall. 47. Ia = water. 48. Tet = depth. 49. Aner = stone.

Plate V.



50. Art = milk: a jar with the fluid emblem issuing from the top.
51. Pet = Heaven. 52. Sba = star. 53. Sechet = field.
54. Anem = colour. 55. Nub = gold: the rings of gold appear underneath.
56. Heh = fire. 57. Neb = Lord. 58. Ma = water.
59. Teher = hide: the headless skin only appears.
60. Pa = house. 61. Ta = earth.

the determining ideas of hair, blackness, colours, grief, and turns. This usage as a determinative is seen in 10 and 54.

Another specially worthy of attention is 16. From the simple picture of a child with its hand to its mouth, are developed the highly abstract ideas of education and renewing. The hieroglyphics, if written on the papyrii, are rudely drawn, but when cut upon stone or marble they are accurate and well balanced, due regard being given to picturesque decorative effect. We have no actual inscription which can be said to belong to the infancy of Egyptian art, but we must presuppose a set of signs which dealt only with inanimate objects, and which were incapable of expressing abstract ideas.

The Egyptian language was, like other tongues, affected by the operation of those physiological laws now so familiar to students of comparative philology, through which, in the course of ages, the entire aspect of a language is gradually altered. Even as early as the 19th Dynasty phonetic decay had brought about considerable modifications in the use of the hieroglyphics.

The principle of the analogy between the development of the child and the race once being granted, it remains for the teacher to study most carefully the development of national culture, so as to find some parallel age of human history which will furnish materials for instruction. Herbart says that we ought to present to the boy such men as he himself would like to be; but, however great our poetical genius, that will be a sorely difficult task. We are adults; our minds are full of pedagogic notions and our own experiences; we are, above all, the product of a highly developed and conventional age. There is a better way. We must go back to the childhood of the world, the tale of Troy, the wrath of Achilles, the daring of Odysseus.

The Herbartians maintain that the mind of a child of six is at much the same stage of development as that of our ancestors at the dawn of history, so that the best material, in this case, will actually be the fairy tales which the past has bequeathed to us. Hence the central topics for instruction during the first year of school life consist of some dozen of the simplest legends current among the countryfolk in the neighbourhood of the school. This is actually carried into practice under Dr. Rein's directions at Jena, and in many other Herbartian schools in Germany. For the second year of school life, the story selected as most adapted to the content of a child's mind at the age of seven is that of Robinson Crusoe, but for the little German he sails, not from York, but Hamburg!

For the further practical working out of the theory the reader can refer to Rein's *Pedagogics*, translated by Van Lieu, or to the discussion of the school curriculum in the *Encyclopædia of Pedagogy* by the same author. The latter is now published as a separate article.

(*e*) *Concentration.*

"All conceivable expedients should be devised in order that time and energy may be economized and an intensity in the results of instruction be attained, through unity in the foundations, association of related materials, and the combination of mutually complementary elements. If in certain courses of study history of the Middle Ages, readings from Herodotus, geography of America, and German literature since Lessing, are found side by side at the same time, we ought to be glad, if . . . the children do not trouble themselves much about some of these things, but . . . rather devote their energies to the independent cultivation of some special portion of the field of instruction."[1]

The desire to avoid this serious danger has led to the working out of the theory of concentration in the school curriculum.

[1] Quoted in Rein's *Pedagogics*, p. 102.

In the first place, concentration is directly opposed to the so-called concentric circles. According to the latter method, the child is to pass through the simplest elements of all branches of instruction in the earlier school years, and then to repeat the work in more detail as he grows older. The series of text books on "Primary," "Intermediate," and "Higher Geography" are based on this theory. The objections which have been urged against it are—

1. The loss of interest. Jean Paul, when speaking of the restlessness of city life, says, "We become indifferent to men only when we see them often and not rightly, when we associate with many without becoming rightly acquainted with *one*."

As Lange observes:—

"Might not that hold good also with historical characters, who hasten, according to the 'concentric circles,' in motley array every year or two across the threshold of the childish consciousness? Does not many a pupil become frightfully indifferent to the ideal figures of Biblical history, and to those of his country, because he had intercourse with too many, one after the other, without 'being rightly acquainted with any one'?

"That which is to become a power in the pupil, and to be closely welded to his most cherished thoughts and feelings, must not pass hurriedly and unconnectedly before his soul like the images of a kaleidoscope; it must occupy him long and uninterruptedly."[1]

2. The waste of mental energy. This is due to the constant breaking up of the old series of ideas and the formation of new ones. Having thoroughly mastered a certain sequence of events in a reign, the pupil is required next year to change this series for one which contains more details. The first then often becomes confused and lacking in clearness.

[1] LANGE, *Apperception*, p. 137.

In contrast to this, those who hold the dual theory of the culture epochs and the concentration centres claim for their system—

I. That the material offered for instruction is adapted to the child's mental attainments. As Prof. Rein states it, the "ascending series of the chief historical stages can rely upon a corresponding series of stages in the development of the inner life of the pupil, and hence upon his deepest interest."

II. That the sequence and co-ordination of the material is so arranged as to ensure a thorough and many-sided course of apperception. "The psychological basis," says Mr. Harris, "for the principle of concentration is to be found in the activity of apperception."

Concentration in instruction demands the fixing of the attention on some one object, and the grouping round it of all that is in any way related in the previous knowledge, environment, home, etc., of the child. Concentration in the curriculum demands a like centre of unity for the different parts of the material of instruction.

Herbart himself divided instruction into two main branches, the one for understanding, the other for feeling and imagination.

"The centre of the educator's activity is the developing personality of the pupil, to which the manifold interests must always be referred." Therefore, as the worth of a man consists in character rather than mere knowledge, all the branches of instruction must be subordinated to those which most directly discipline the will, viz., the humanistic group. To supplement experience, then, which constitutes Herbart's first line of instruction (viz., that for the understanding) we require natural science in the widest sense. To supple-

ment intercourse, which deals with feeling and imagination, we require the historical humanistic branch, and it is this which should exercise the real ascendency.

Dr. Rein tabulates it thus[1]:—

The Circle of Thought.

A. Experience.	B. Intercourse.
Things of the environment.	Men of the environment.
Nature.	Life.
Knowledge.	Sympathy.
Broadening of Experience.	Broadening of Intercourse.
Natural Sciences.	Historical Branches.
Realistic Direction.	Humanistic Direction.

Concentration demands that these two lines shall not be carried on independently, but shall be brought into the closest possible association, under a dominating humanistic influence.

Although many of the attempts to carry out this theory have provoked ridicule, and although there is danger that, in our efforts at connecting that which nature has separated, we should form really false associations, there can nevertheless be no doubt that the psychological principle involved is of the highest importance, and has received far too little attention in education.

Two aspects of the subject should be noticed—

I. The important connection between concentration and memory, and hence the bearing of the former on the content of the circle of thought.

II. The effect of concentration on the application of knowledge to life, hence its bearing on the form, structure, and movement of the presentation masses.

First, then, concentration, through its close connection with memory, affects the content of the circle

[1] *Pedagogics*, p. 111.

of thought, and thus influences the formation of the apperceiving factor.

Professor James points out that the phenomena of memory involve two things: (*a*) recall, (*b*) retention; the cause of both is the law of habit in the nervous system working in the *association of ideas.* The basis, then, of memory is found in the law that "when two elementary brain processes have been active together or in immediate succession, one of them, on re-occurring, tends to propagate its excitement into the other."

(*a*) Association explains recall. We try to remember the context of the sentence, "After life's fitful fever he sleeps well." The missing lines themselves are not in consciousness, but the mind rapidly surveys all the connected ideas in the hope that one will suggest what we are seeking. Sleep, death, Duncan, murder, treason, some such series as this may be recalled by association, and suddenly the thing sought for is there.

> "Duncan is in his grave.
> After life's fitful fever he sleeps well.
> Treason has done his worst."

"In short, we make search in our memory for a forgotten idea, just as we rummage our house for a lost object. In both cases we visit what seems to us the probable neighbourhood of that which we miss."

(*b*) Association explains retention, which after all only means the possibility of recall: its basis is the existence of brain paths which *associate* the experience with the occasion and cue of the recall. Memory being thus altogether conditioned by these paths in the brain, its excellence will depend partly on their number and partly on their persistence. Instruction has but little to do with the second condition. The quality of

permanence in the paths is a physiological peculiarity, and greatly varies in different individuals and in the same person at different periods of life. Professor James thinks, that though tenacity is greater in fresh and vigorous hours than in sickness or weariness, no amount of culture can really modify a man's general retentiveness. Some minds are like wax under a seal, no impression, however disconnected with others, is wiped out. Others, like a jelly, vibrate to every touch, but, under usual conditions, retain no permanent mark. Some of the historical examples of memory point to the possession of amazing retentiveness of the physiological sort. Cyrus and Cæsar, for instance, knew all the names of their soldiers. Themistocles' memory was such as to lead him to wish for an art of forgetting. Mithridates knew twenty-two languages, and the elder Seneca could reproduce 3000 words repeated to him. All these cases may to some extent be due to what Kant calls the mechanical power of learning by heart, *i.e.*, to the possession of desultory memory which has its origin in the unusual tenacity of the brain substance for any path once formed therein.

"But there comes a time of life for all of us when we can do no more than hold our own in the way of acquisitions, when the old paths fade as fast as the new ones form in our brain, and when we forget in a week quite as much as we learn in the same space of time."[1] That is, the physical tenacity generally deteriorates in middle life, and we vainly regret the powers of childhood. Fortunately there is compensation at hand, for retention also depends on the *number* of the brain paths. "In mental terms, the more other facts, a fact is associated with in the mind, the better possession of it our memory retains," or, as Professor James again says, "Of two men with the same outward experiences and the same amount of mere *native* tenacity, the one

[1] JAMES'S *Psychology*, p. 203.

who thinks over his experiences most, and weaves them into systematic relations with each other, will be the one with the best memory."

We could scarcely have a stronger statement than this as a support to the theory of concentration. The formation of an orderly but highly complex network of brain paths is its actual physical aim: once let that be attained and the strength afforded by union will be seen in the increased vigour and clearness of reproduction. The mind content can thus undoubtedly be increased at a minimum expenditure of effort.

II. Concentration has also an important influence on the form and mobility of the circle of thought, and hence on the application of principles to life.

If we leave the mind absolutely at the mercy of the law of association, it is in danger of what Professor James calls "total recall—a perpetual treadmill of concrete reminiscences, from which no detail can be omitted." The only escape from this state lies either in some sudden interruption from the outside world, *or* in the presence of some dominant controlling tendencies in the mind itself, which draw some elements of the past into the full light of consciousness, and suppress others as irrelevant.

It is the special aim of concentration to form these dominant masses, which will select and set in order the multiform products of experience. We all know the opposite type of mind—the student who always fails to catch the point of a lecture; the witness who is the despair of barristers, because he seems unable to state the bare facts which his senses have told him, the examinee who discusses all things in heaven and earth except *what was asked.* Miss Bates in Jane Austen's *Emma* has been quoted as one of the many classical examples:—

"'But where could *you* hear it?' cried Miss Bates. 'Where could you possibly hear it, Mr. Knightley? For

it is not five minutes since I received Mr. Cole's note—no, it cannot be more than five—or at least ten—for I had got my bonnet and spencer on, just ready to come out. I was only gone down to speak to Patty again about the pork—Jane was standing in the passage—were not you, Jane?—for my mother was so afraid that we had not any salting pan large enough. So I said I would go down and see, and Jane said, 'Shall I go down instead? for I think you have a little cold, and Patty has been washing the kitchen,'" etc., etc.

The wise listener does not get angry; he waits patiently, because he knows it is not intentional; it is the way this mind works, and no exasperation on his part will hurry or alter it. Concentration in early training might have changed matters, but now very little can be done.

Lastly, concentration is intimately connected with the formation of the will. "Great moral energy," says Herbart, "is the result of broad views, and of whole unbroken masses of thought."[1]

Life principles are not the growth of a day. If they are to stand the stress of circumstances they must be deep-rooted, with their fibres woven into the inmost being. Concentration, emphasizing as it does the humanistic side, really demands that every part of instruction shall be pervaded with the same high tone. As Herbart says, all men start in life with much the same *natural* inclinations. We all shrink from pain, we welcome pleasure: the differentiation comes in when we begin to put a definite value on desire, that is, when we decide how far we are prepared to go to achieve its attainment. "We must know how dear our wishes cost us. The trivial . . . must fall to the ground before the greater, the more important."

Many of the crises of life assume this form. We have to decide between two courses, and neither seems

[1] *Science of Education*, translated by FELKIN, p. 222.

absolutely wrong; the vital question remains, Which is of *most worth?* A just valuation of the objects of desire is the aim of concentration. "For the ideal man," as Herbart expresses it, "each thing has a limited value."

One only should "fill the mind with illimitable endeavour," and that is the highest. Therefore "he that loveth his life" overmuch *shall lose it;* they, too, who love the world are mistaken, for "*the world passeth away, and the lust thereof,*" that is, there is loss again, because the soul is immortal, and the things which are seen are temporal. Therefore, they alone are blessed "who hunger and thirst after *righteousness.*"

(f) The Formal Steps.

This brings us to that part of Herbartian theory which has provoked the most severe criticism. The very name of "method" seems obnoxious to many, while Glayre's reproachful words to Pestalozzi are still hurled at Herbartians, both in Germany and England. "Vous voulez mécaniser l'Education." Yet what do we mean by method? Herder said, "Every teacher must have his own method; he must have created it himself, through his own intelligence, or it is of no advantage to him." According to this, the educational world is in a worse position than was Israel in the days of the Judges, when "every man did that which was right in his own eyes." Certainly in such a state of things it is in vain to talk of general principles or laws of mind, and Herbartianism becomes a myth.

Comenius, however, thought differently. "There is but one natural method," he said, "for all sciences, arts, and languages." If we recognize a science of mind at all we must accept the hypothesis that psychical processes conform to law; therefore there can be only one natural method of instruction, that,

namely, which renders a perfect obedience to these laws. Here, as elsewhere, we can subdue Nature only by obeying her. So the natural method becomes an ideal towards which we would humbly strive. Humbly, never forgetting the enormous debt we owe to our predecessors; but still hopefully, since we recognize the great advance made in our own day by that psychology which must of necessity be our guide in the future. The modern leaders of the Herbartian school strongly deny the charge of wishing to lay down hard and fast rules, or, in a word, to mechanize education. To quote again Dr. Rein:—

"The truth must, nevertheless, be advanced against . . . scorners of all method; even the most happily constituted nature, the teacher by divine grace, is not restricted nor rendered ineffective by the directions of method; on the contrary, his activity is promoted and rendered truly effective. . . . No one will assume that the highest stage in development has been reached; everyone will admit that recent improvements only advance us one step further on the way that leads to the highest goal, viz., the finding of the one natural method of teaching."

From the apparent labyrinth of abstract conceptions to be found in Herbart's *Science of Education*, Professor Ziller of Leipzig has elaborated a series of practical rules for the guidance of teachers. We will suppose the material of instruction is before us. "The subject matter to be treated must first be separated into small divisions, small wholes of instruction or methodical unities, each one of which is to be subjected to an elaboration by itself." "The one criterion of a well-chosen method unit is the single, chief, *general truth* which is embodied in its content. Its treatment requires a regular process of generalization."

Here we see one of the most important Herbartian principles, viz., that, as Dr. Rein explains it, the whole

of the process of learning may be summed up under two activities:—

1. The attainment of clear, distinct percepts.
2. The deduction from them of accurate general notions.

The first activity is that of the apperceptive process, and divides again into two:—

(*a*) The preparation of necessary, related, and already known material.
(*b*) The presentation of the new ideas.

The second is the process of abstraction, dividing into:—

(*a*) The comparison of all known cases.
(*b*) The extraction of the essential and the generally valid.

One last step completes the process; it is the application of the knowledge, that it may become ability and power, which is always at command.

These results may be thus summarized:—

HERBART AND ZILLER.

STAGE I. APPERCEPTION (to obtain clear, distinct percepts).	STEP I. CLEARNESS.	(*a*) Analysis (preparation). (*b*) Synthesis (presentation).
STAGE II. ABSTRACTION (to deduce accurate general notions).	STEP II. ASSOCIATION. STEP III. SYSTEM. STEP IV. METHOD (application, function).	

The aim of instruction, then, is to lead the child to pass easily from the particular to the general. Many great thinkers are agreed on this point. "Perceptions," says Kant, "without conceptions are blind, just as conceptions without perceptions are empty."

"A boy," writes Lessing, "whose whole mental powers are, so far as possible, constantly extended in every direction; who is accustomed rapidly to compare all that is daily added to his store of knowledge with what he knew yesterday, in order to see if through this comparison he does not come upon things which were never told him; who is constantly led out of one science into another; *who is taught to rise from the particular to the general as easily as to descend from the general to the particular again*; such a boy must become a *genius*, or one can become nothing in this world." In his letters he writes still more definitely. "Only the skill to rise quickly in every emergency to universal truths makes the great mind, the true hero in virtue, the discoverer in science and art."

The importance of this principle may be shown in all branches of knowledge. What really is genius but a marvellous power of seeing into the inner relations of things? The great mind can pass over the petty details and differences which distract the smaller folk, and, by what seems almost like intuition, is able to grasp the underlying unity. For ages men had noticed the fall of weights to the earth; for ages they had observed the movements of the moon in the midnight sky. It was the leap of genius which connected these particular facts under the universal law of gravitation. So it is an important moment in mental development when a child realizes, that Euclid's proof of the equality of two triangles applies, not only to the two particular figures, but to every conceivable triangle which fulfils the conditions.

Again, in history and literature, which deal with human conduct, all depends on whether we arrive at the underlying ethical principles. In this we are simply following in the footsteps of all the great teachers, poets, and historians. These are the "seers" of the ages, for amid the tangle of human circumstances they see and bring out before men's eyes the golden threads

of universal truth. We get absorbed in particulars, in the endless little details of our own lives and of those about us; and only as we are drawing near the end do we begin to realize *why* certain things happened, why some things were withheld. In literature we look at our own lives "writ large." In Macbeth we see the result of yielding to the thought of evil, in Sidney the beauty of self-sacrifice, in Spenser the striving after the ideal. Thus in teaching we have specially to avoid the present-day risk of too many details. We white-wash our villains and lose our heroes. We watch Elizabeth coquetting before her glass, and trifling through the petty nothings of court life, till we lose sight of her greatness and her love for England. We have read ourselves into the weak position of contemporaries, and have come down from our vantage ground of time; and so we fail to grasp the main drift of the character, and the lesson of the life is lost. The poet looks through the coloured veil[1] of Nature which sometimes distracts our weaker sight, and he sees her perfect beauty, sees that which is eternal and unchanging behind the play of phenomena, and the ceaseless variety of the becoming; sees that, over which even the mighty Titaness Mutabilitie has no power.[2] These are the imperishable lessons of literature and history.

We have seen that the sum of the method units will give us the amount of subject matter which is to be mastered in a given period. It is impossible to determine the time required in every case for the five formal steps, as all depends on the subject and the child's stage of development. In arithmetic, geometry, or physics, a method unit might be completed in the one hour, whereas in geography, history, or language

[1] See SPENSER'S *Faerie Queen*, vii.; *Mutabilitie*, vii. 5, 6; and CHAUCER'S *Parliament of Fowles*.
[2] SPENSER'S *Mutabilitie*, vii. 58.

we might require several. Having decided on the subject of the lesson, the first thing in Herbartian practice is the "Statement of the Aim." This, in Dr. Rein's phraseology, is included under the heading of the first step, which he calls Preparation.

The object is to give the thoughts of the pupil a definite tendency, to arouse expectation, stimulate interest, and give intellectual activity from the beginning that impress of *work* tending towards a definite end, which distinguishes it from mere play. Nothing betrays the unskilful teacher more clearly than a bad beginning. As a rule the statement should be simple, introducing no unknown words or concepts, and it should have a concrete rather than a formal content.

This brings us to the first formal step:—

I. CLEARNESS. { Analysis, Synthesis.

Analysis corresponds to Dr. Rein's first step of Preparation, and its purpose is to pave the way for apperception. It consists of a carefully-conducted analysis of the presentations in the child's mind. One of its best forms is that of a skilfully-guided conversation with the children, as this causes a free rise of presentations on the subject already introduced by the statement of the aim.

"Then the dullest mind has time to act, and even the retiring disposition is encouraged by the confidential tone of conversation. No one should be omitted in the relation of his experience, and each, according to the measure of his knowledge, will add something to the new thought structure. Everyone rejoices that his own knowledge, which has heretofore been smuggled in as forbidden ware, as compared with the word of the teacher, is recognized and respected, and each looks forward to every new lesson with redoubled interest. This condition of mind is the most favourable that the new material can meet; the apperceptive process is introduced in the very best way possible.[1]

Synthesis corresponds to Professor Rein's Presentation of the new facts. This step is governed by the law of successive clearness. As Professor De Garmo expresses it, "The matter of instruction must not be presented in the mass, but in small, logically-connected sections, to each of which in succession the pupil should give his undivided attention. . . . These two processes, absorption in individual notions and their apperception as connected," are what we have already referred to as Concentration and Reflection. Herbart compares them to the process of breathing, the inspiration and expiration of the soul.

II. ASSOCIATION. This third step begins the process of abstraction, by the comparison of the new facts with the old. The mind must be carefully guided to those special associations which will bring out the general truth of the method unit. In this way the universal is gradually reached through the particular, and the whole is arranged and classified by

III. SYSTEM. (Generalization, classification.) It has been said that this really completes the process of abstraction, and requires (1) "the separation of the notional from the concrete; (2) the formulation of the statement of the notional in language; (3) the placing of the concept thus attained in its proper place in already formed series of concepts, *i.e.*, its classification; (4) the repetition and securing of the concept.

The form assumed by this step, of course, varies with the subject in hand. In history it may find expression in some ethical, social, or political maxim; in science, in the formation of a classification, the

[1] LANGE, *Apperception*, p. 212.

drawing up of a table of genera, families, etc., which furnishes in a concise form the generalized result of the observations; in geography, system may appear in the drawing of a map.

IV. Method. (Application.)

"Perhaps the worst thing," said Pestalozzi, "which an evil genius has presented to this age is knowledge without ability to use it."[1]

"When the reviewing and applying are omitted, when the range of thought is constructed without being united in every possible way with the other groups of ideas, the power of influencing thoughts subordinate to it is lost, no matter how clear the range of thought may be in itself. Then it forms, as it were, an upper house of ideas, independent of the lower house, and not taking into account other ideas."

"When the pupil does not put away his school thoughts with his school implements, but likes to make use of what he has learned in school, outside of it; when, for example, he borrows the characters of history and imitates them in work and play; when he carries out practically what he has learned in natural history; when he voluntarily seeks to extend and fix what he has learned by observation and by diligent research; then a proper mental activity has been attained, then we see knowledge that is in the very best way to be transposed into volition. This is what Goethe meant when he said, 'The secret of teaching consists in reducing problems to postulates.'"[2]

The tendency to neglect the application of what is learnt to the affairs of life may involve serious consequences. The gradual growth of a separation between the world of presentations and feelings, and that of action is most disastrous to character. Professor James well expresses it thus:—

[1] *How Gertrude Taught Her Children.*
[2] Lange, *Apperception.*

"A tendency to act only becomes effectively ingrained in us in proportion to the uninterrupted frequency with which the actions actually occur, and the brain 'grows' to their use. When a resolve or a fine glow of feeling is allowed to evaporate without bearing practical fruit, it is worse than a chance lost; it works so as positively to hinder future resolutions and emotions from taking the normal path of discharge. There is no more contemptible type of human character than that of the nerveless sentimentalist and dreamer, who spends his life in a weltering sea of sensibility and emotion, but who never does a manly, concrete deed. Rousseau, inflaming all the mothers of France by his eloquence, while he sends his own children to the foundling hospital, is the classical example of what I mean. But every one of us in his measure, whenever, after glowing for an abstractly formulated good, he practically ignores some actual case, among the squalid 'other particulars' of which that same good lurks disguised, treads straight on Rousseau's path. All goods are disguised by the vulgarity of other concomitants in this work-a-day world; but woe to him who can recognize them only when he thinks of them in their pure and abstract form. The habit of excessive novel-reading and theatre going will produce true monsters in this line. The weeping of the Russian lady over the fictitious personages in the play, while her coachman is freezing to death on his seat outside, is the sort of thing that everywhere happens on a less glaring scale. Even the habit of excessive indulgence in music for those who are neither performers themselves nor musically gifted enough to take it in a purely intellectual way, has probably a relaxing effect upon the character. One becomes filled with emotions which habitually pass without prompting to any deed, and so the inertly sentimental condition is kept up. The remedy would be never to suffer one's self to have an emotion at a concert without expressing it afterward in some active way."[1]

[1] James's *Text Book of Psychology*, p. 148.

(*f*) *Lesson on English Literature.*

SUBJECT—Spenser's *Faerie Queen*, Canto ix. 21–54.

In previous lessons the story of the preceding Canto had been given, and stanzas 1–3 of Canto i. had been learnt.

GENERAL TRUTH embodied in method unit:—

"We count them blessed which endure."

STATEMENT OF THE AIM. We shall see to-day how the Knight of Holiness fell into the greatest peril.

I. PREPARATION. Conversation in which each child takes part concerning the past dangers and difficulties through which the Knight has passed; how he has slain the monster Error, fought with Sansfoy and Sansloy, escaped the wiles of Duessa in the House of Pride, etc., etc., but that his task is *not yet* accomplished. Children repeat the stanza:—

"Upon a great adventure he was bond
That greatest Gloriana to him gave
That greatest, glorious Queene of Faerie lond
To winne him worship, and her grace to have
Which of all earthly things he most did crave;
And ever as he rode his heart did earne
To prove his puissance in battell brave
Upon his foe, and his new force to learne;
Upon his foe, a dragon horrible and stearne."

But *the Dragon still lives, therefore* no time *yet* for *rest*.

II. PRESENTATION. Story (partly told, partly read impressively), divided into:—

1. CONCENTRATIONS.

(*a*) Vivid picture of the meeting with the Knight Sir Trevisan: his white, scared face, bristling hair, the cord round his neck, the panting horse.

(*b*) Trevisan's breathless story: how he and Sir Terwin had been unfortunate in love; their meeting with "a man of hell that calls himself Despair"; the suicide of Sir Terwin with the "rusty knife."

(*c*) The Red Cross Knight's brave answer; his determination to conquer Despair.

REFLECTIONS combine (*a*), (*b*), and (*c*) by means of a brief summary.

2. CONCENTRATIONS.

(*a*) THE CAVE OF DESPAIR, its gloom and horror: the bare trees fit for gallows; the haggard old man, his hollow eyes and ragged clothes; the sight of the body of Sir Terwin.

(*b*) THE CONVERSATION. (1) Despair's deceptive words; the rest and ease of death. (2) The Knight's answer; the soldier must not leave his post. (3) Despair's taunt about the Knight's past failures, "the longer life, the greater sin," therefore "die soon." (4) The Knight nearly yields, but is saved by Una's reminder of *work yet unfinished.*

Reflections combine (*a*) and (*b*).

III. ASSOCIATION.

(*a*) COMPARISON of the Knight's endurance in this case with his previous victories over Sansloy, Sansfoy, Error, etc.

(*b*) COMPARISON of the Knight's endurance with that of others; children mention cases, *e.g.*, St. Paul, Christian and Faithful in *Pilgrim's Progress*, the Martyrs (especially those who accomplished a definite life-work), Bishop Hannington, etc.

CONTRAST with Sir Terwin who had killed himself, with Pliable in *Pilgrim's Progress*, with Elijah who once prayed that he might die, etc.

IV. SYSTEM. Formulation. "Blessed is he that *endureth* temptation."

"The soldier may not move from watchful sted,
Nor leave his stand until his captaine bed."

"Be thou faithful unto death."

V. APPLICATION. Difficulties in our lives; grumbling over difficult work; giving a thing up because it is hard; asking for holidays before term is over.

"He that overcometh shall inherit all things."

Singing of the hymn:—

"'To him that overcometh' on earthly battle-fields
We crown the noble victor, we scorn the man who yields;
Loud rings the shout of triumph, fair shines the laurel wreath,
We bring the robe of victory, we lay the sword in sheath.

'To him that overcometh' a crown of gold is given,
The glory of God's children, the perfect rest of heaven,
The morning star for jewels, a robe of purest white,
And Christ our Lord will own him His follower in the fight."

II., III. *Government and Discipline.*

Before passing on to government and discipline, it will be necessary to consider Herbart's analysis of the ordinary phenomena of volition. "I am astonished," he writes, "that a parallel has not been more carefully drawn between the constancy of our conceptions and the constancy of willing, which goes to make up the chief basis of the objective part of character."

Willing, we have seen, develops out of desire when attainment seems possible. For example, the sight of a cold and starving boy rouses desire in another child to mitigate his pain, or at least to give him some pleasure. This passes into will, as the presentations arise of the money which can be spent for the sufferer, and the clothing and the food which can be procured. The child succeeds in carrying out his purpose. On

the next day he sees a similar pitiable object. Instantly the complex mind-picture of yesterday is recalled, bound up together as it is by the volition, and with it comes back the sympathetic pleasure experienced in relieving pain. A second time the result is unselfish action, and the effect is to intensify and give greater coherence to the will-picture. The law of habit rules here as elsewhere. The oftener the process of willing is repeated the stronger and more definite becomes the tendency to will in this particular way, until at last to act with benevolence becomes a maxim or governing principle of life.

Supposing, however, on the second day, when the will-picture is reproduced, a strong selfish motive is also present. Opposing presentations arise of the self-denial involved in giving away money and toys to the poor. For a time there is an uneasy consciousness of struggle between the rival elements, then perhaps egotism is too strong, and the first will-picture is driven out of consciousness. A tendency is thus formed to resist the impulse to benevolence, and that, too, may become rivetted by the chains of habit. Everything depends on what Herbart calls memory of the will, that is, on the movement and energy of the concepts in which the will originates.

Without agreeing with Herbart's actual derivation of will from cognition, we can recognize the truth of these statements. Memory of the will depends on firm union and systematic order among the presentations. If it be strong and vigorous, the new cases which life offers for our decision will be rapidly subsumed under already established principles, and action will be unhesitating and effective.

As we read in *Romola*, it is the inexorable law of human souls, that we prepare ourselves for sudden deeds by the reiterated choice of good or evil, and that gradually determines character.

A singular statement in the *Dhammapada*, a work of the Buddhist Canon, forms a comment on Herbart's views:—

"All that we are is the result of what we have thought. It is founded on our thoughts, it is made up of our thoughts. If a man speak with an evil thought, pain follows him as the wheel follows the foot of the ox that draws the carriage. . . . . If a man speak or act with a pure thought, happiness follows him like a shadow that never leaves him."

Thus the sway of the law of habit, even in this deepest part of our personality, leads us to the fact that from a purely scientific point of view character tends to a final permanence.

Slowly, but surely, its chains tighten on us. Up to twenty, says Professor James, is the important period for the fixing of personal habits, vocalization, pronunciation, gesture, etc. Hardly ever do we find a youth brought up in low society able to take a proper place among his betters.

"Hardly ever, indeed, no matter how much money there be in his pocket, can he ever learn to *dress* like a gentleman born. The merchants offer their wares as eagerly to him as to the veriest 'swell,' but he simply cannot buy the right things. An invisible law, as strong as gravitation, keeps him within his orbit, arrayed this year as he was the last; and how his better-clad acquaintances contrive to get the things they wear will be for him a mystery till his dying day."

From twenty to thirty is the critical period in the formation of intellectual and professional habits. By twenty-five "you may see the professional mannerism settling down on the young commercial traveller, or the young doctor, or the young minister, or the young counsellor-at-law. . . . . In most of us by the age of

thirty the character has set like plaster, and will never soften again."

For character, as J. S. Mill says, is "a completely fashioned will," and "a will, in the sense in which he means it, is an aggregate of tendencies to act in a firm and prompt and definite way upon all the principal emergencies of life."

Possibly this is the undercurrent of meaning in the weird legend Ranke heard in Greenland. They say there that if a sorcerer makes a stirrup out of a strip of sealskin and winds it round his limbs, three times about his heart, thrice about his neck, seven times about his forehead, and then knots it before his eyes, that then, when the lamps are put out at night, the man may rise into space and fly whithersoever his leading passion dictates.

So must we ever reckon with the subtle but binding chains of habit on thought, feeling, and will. Who shall say that when the night comes, and the conventionalities of day are over, and the play of the "psychical mechanism" is free from present limitations, that then the spirit shall not pass into the unseen, following still the lead of the dominant passion?

The last two "means of education" which we must now consider are government (*regierung*) and discipline (*zucht*), or, as some prefer to translate it, training. Both differ from instruction in that the pupil himself is now "immediately in the teacher's mind as the being upon whom he has to work," whereas in instruction the material of necessity absorbs some attention. "The worth of a man," says Herbart, "consists not in what he knows, but in how he wills. It is the purpose, then, of education so to form the circle of thought that right volition may be the result.

Instruction should supply a knowledge, which, since it is coloured with interest, will lead to volition. "If

this volition," says Ufer, "is controlled by the ethical ideas, the work of *Instruction* is done." But the task of education is something more. The latter demands moral strength of character, the steady efficiency of a will at the service of the æsthetic judgments. The first means to be considered as a help to this end is

Government. "A spirit of order" is a necessity before instruction is even possible. Childish impetuosity and restlessness, which do not necessarily proceed from an evil will, must yet be kept in check, lest they lead to bad habits and anti-social tendencies. Herbart suggests four means of child government: (*a*) occupation, which forms a healthy outlet for natural activities; (*b*) supervision, which is necessary in the earliest years, but is attended by certain serious dangers, such as the loss of originality and self-knowledge; (*c*) and (*d*), threatening and punishments of a special kind. The latter only take cognizance of wrong action without regard to the *desire* to do evil.

"All punishments, as measures of government, must be inflicted without directing the attention to the fact that the naughtiness committed was bad, and therefore reprehensible; they must be carried out without exciting the childish mind; they must appear to the child as a natural consequence necessarily following upon the act committed."

In a word, the aim of government is simply to guard against mischief, and to accustom the child to habits of order, punctuality, neatness, industry, etc. The obedience it exacts is prompt and unquestioning. Its importance is seen in the serious evils which it prevents. Yet, above all things, it must not be continued too long, for the growth of ethical insight demands a different method, and that is *discipline.*

Discipline "must see to it that the volition of the pupil receives its tendency from the ethical ideas,"

that his actions in the larger life beyond the schoolroom may be steadily moulded in accordance with the æsthetic judgments. It should be specially contrasted with government.

First, as regards the obedience required under government, the child submits because he must; under discipline, because he consciously wills to bow to a higher law. The measures of government are short and decisive in tone; those of discipline represent rather a continuous moulding power, an atmosphere which surrounds the child and appears to him illimitable. The very thought of escape from it should not occur to him. Common experience confirms this. Wherever any real intercourse takes place, the mental atmosphere is determined by the strongest personalities present. We know the strange lowering of tone in a class or a school caused by one unprincipled character. We know, too, how the very presence of one lofty spirit has a hallowing influence amid the worst surroundings. So we catch a glimpse of Herbart's ideal teacher, one whose life is such that the discipline he maintains is simply the outcome of personality, for "a kind of omni-presence of moral criticism is the necessary condition of moral truth"; one like him of whom Tennyson wrote:—

"I had such reverence for his blame."

To such an one the child must consciously submit his own will, for the highest moral ideal could not be that which was controlled by any *outside* force. Government may last till reason awakes, but we have achieved nothing if *then* there is no inner response; that is, if the will is not given freely to the service of the moral ideas. And this fact is suggestive of that deeper law which governs all psychical development.

We are but children of a larger growth, and life, the great teacher, tests men and women in the same way.

Like children, we set our hearts on passing trifles, and if we would but listen, the discipline of life points out gently the folly of our choice. If we are wise, we bow to a higher will, and acquiesce to a wisdom which is perfect love; if we are not, we grasp at the object of our desire like a child. And then comes government—short, sharp, decisive—sent to save us from ourselves, and the thing is taken from us. The loss is a double one, for the child might have risen to a higher class, and the pupil might have learnt to know his teacher's further plans; this could not be, because he *chose government*. For the great point which Herbart emphasizes above all is this: *the battle of* life is *not* with outside things. It centres within, and it *is* in the will. Character is the embodiment of will, and we may now add the corollary to this statement, that character tends to a final permanence in its innermost preferences. All depends on that which Herbart calls taste, that of which Ruskin once said, "Taste is not only a part and an index of morality, it is the *only* morality. The first and last and closest trial question to any living creature is, 'What do you like?' Tell me what you like, and I will tell you what you are."[1] Circumstances may for a time thwart the outer life, the stern hand of government may be too strong for us; but at last comes a time when we must choose, and we choose what we have long desired.

There was a ferryman in *Pilgrim's Progress* whose face was set towards the celestial city, but he was rowing in the opposite direction. The case is no uncommon one, and we are sometimes not quite conscious ourselves of these inner and powerful springs of action. What will a man choose when the restraints are gone?

The ethical collapse of Balaam seems a case in point. Here we see apparent obedience ending in

[1] Quoted in FELKIN's *Science of Education*, p. 86.

moral downfall. The explanation is that the "taste" was evil; the set of the personality was in the wrong direction. He knew from the first night that to curse Israel was sin. The æsthetic judgment had given the verdict; after that there was only one safe course, instant voluntary submission. This might not have involved precipitate action, but simply readiness to comply with the subjective will in harmony with moral insight. But the dominant inclination in the objective will was an unchecked love of gain; and this really conquered, though for a time it was restrained by fear of the consequences; he wished to have as much of Balak's treasure as could be gained *safely*. There was no yielding of the lower to the higher will, no consent to discipline, only a lurking fear of government. But we saw that government is for the child who does not know any better. This man knew well, so it had to be discipline or ruin. One last sharp warning he seems to have had. Whether that vision was subjective or objective matters little. To an Eastern mind, used to symbolism, nothing could be plainer. He found himself in a narrow path of the vineyards hedged in on either side; two courses alone were possible, forward to Balak, back to Pethor, *and in front was a drawn sword*. A voice sounded in his ears; not, "Thy way is *perverse*" (the Hebrew is much more forcible than this), but, "Thy way is *headlong* before me," that is, it is nothing short of moral suicide. The end is tragic enough. At last the restraints were removed. In the end he managed to win Balak's friendship, he brought the deadliest curse on Israel, he attained that which his taste approved—*the gold*.

Respite after that was unavailing; the visionary sword in a few months became reality.[1] So in ethics there inevitably comes a point where arrested development involves degeneration.

[1] Num. xxxi. 8.

But the converse is also true, and has been recognized by many writers. In *Marcella* one of the finest scenes is the death of Hallin. He had just been told the secret which could give supreme happiness to the two he loved best, and his friend stood by his side. At that moment speech began to fail; he was dying, and he knew it. There was one fierce conflict, a passionate desire for at least a moment of time, and then Hallin sank back silent but content. It was the last grand victory of a surrendered will, a realized inner freedom, and therefore peace. For they are not free who "do as they like." Nor are they free whom thousands obey. He alone is free who has conquered self.

Dante also saw this. The man whose life had been spent amid the restless political tumult of Florence could picture the torture of the inferno and the ceaseless struggle of the purgatorio, but how was he to paint a realm of eternal rest? He gives us the answer from the lips of that same Piccarda Donati, whom he found in the lower heaven of the moon. He questions her, does she never long for a higher sphere?

> "She with those other spirits gently smiled;
> Then answered with such gladness that she seem'd
> With love's first flame to glow: 'Brother, our will
> Is in composure, settled by the power
> Of charity who makes us will alone
> What we possess, and nought beyond desire:
> If we should wish to be exalted more,
> Then must our wishes jar with the high will
> Of Him who sets us here: . . .
> Rather it is inherent in this state
> Of blessedness to keep ourselves within
> The divine will by which our wills with His
> Are one . . . .
> And in His will is our tranquillity.'"[1]

There is one other passage. Dante is ascending the steep path of purgatory. The flush of dawn has

[1] *Paradiso*, iii. 50–89.

faded into common day. It is all effort—interminable, monotonous ascent. He pleads with Virgil—

> "I fain would learn
> How far we have to go; for the hill rises
> Higher than eyes of mine have power to rise."

It is the old question:—

> "Does the road wind uphill *all* the way?
> Yes, to the very end."

And Virgil answers:—

> "This mount is such that ever
> At the beginning down below 't is tiresome,
> And aye the more one climbs the less it hurts;
> Therefore when it shall seem so pleasant to thee
> That going up shall be to thee as easy
> As going down the current in a boat,
> *Then*, at this pathway's ending thou wilt be."

Herbart speaks, too, of a time when at last the soul may possess a symmetrical passion for good. The task of discipline shall then be over, for will shall cease to work along the lines of greatest resistance, and shall attain

> "The ultimate angels' law
> There, where law, life, love, impulse are one thing."

THE APPLICATION OF PSYCHOLOGY TO EDUCATION

LETTER I.

1. The occasion of the Letters—Ethics furnishes Education with its aim—Psychology, with guidance as to helps and hindrances—The present work is written to supply the psychological deficiencies of an earlier treatise; *e.g.*, the Science of Education.

2. The Function of a Psychological Science of Education—It should be: (*a*) a revelation of the possibilities of development in a human being; (*b*) a mirror to show the bad teacher what he is doing; (*c*) a guide and counsellor in noble aims—Its threefold task is to consider (*a*) the pupil's manifold capacity for cultivation; (*b*) the means at our disposal, such as books, apparatus, coercive measures, &c.; (*c*) the different kinds of schools.

AFTER so many years' experience, my dear friend, you have too long put off collecting and publishing the results of your educational thought and observation. Do you fear forsooth that you will find no audience? Forget this danger, common almost to all, and think only of the age, which is so little conscious of its needs. Surely your quiet, measured tones are well adapted to cause reflection, at least in some, in spite of contending prejudices. And since we agree as to principles, permit me to hope that your experience also may not be opposed to mine. Perhaps it is in your power to procure for me valuable proofs and

illustrations of those things which I, as usual, shall state in the form of general ideas.

But I do not write this letter merely by way of exhortation to you. There is that also in my mind which I might have called an old obligation, or at least a promise, which I made to myself many years ago. You know my *General Principles of the Science of Education.* You know the book is incomplete, because although, (as the title shows), it is a deduction from the aim of Education, it is deficient in Psychology, which I was then studying for the first time. Since then we have read so many different things about, and in opposition to my Psychology, that if it has not yet expired under the treatment, it ought surely to furnish some proof of its vitality, were it only to prevent much younger people taking us antiquated practical Pedagogues into the schools of their empirical Psychology.[1] But at my age one loves ease. Now you can guess the rest quite well. To write letters to you is very easy for me; it may also be an adequate means, not only of furnishing certain additions to Psychology, but also of discharging this indirect educational debt, to which I have alluded.

A system described in letters would be almost as ridiculous as a system in verse. But you would hardly welcome me if I offered you anything quite unsystematic, for to chatter in a desultory fashion about Education is, or at least seems, only too easy, and

[1] Willmann thinks that this is an allusion to Beneke, who seems to have much resented the views expressed in Herbart's works on Psychology.

I dare not offer anything of the sort to you. The more education appears in the circle of daily experience as something commonplace, the more necessary it is to bring into definite order our thoughts on the subject, and so to fix them that they may not be lost in the stream of mere opinion. To be sure the case would be quite different if my mind were set on any so-called methods and their recommendation to the Public. But in that case I should not write letters to you.

Let us begin at once with an abstraction, the only value of which is to explain a concept, and to sketch out a line of investigation.

Education is related to Ethics by the conception of the aims which the Educator has in view. By the consideration of means and hindrances it is driven back to Psychology. That first relation you are no longer seeking to investigate; any alterations touching it, perhaps as regards wording, which my earlier writings require, you will discern naturally with the slightest attention. But the Psychology of Education is so difficult and so many-sided, that we shall do well to occupy ourselves first merely with its general conceptions, and to sketch it out in bare outline, unconcerned even at the misshapen forms which may appear before our eyes.

Picture to yourself a hoary diplomatist, whose stony countenance betrays no trace of sympathy for the weal or woe concerning which he, as a soothsayer, is consulted. He notices which way the wind blows and adjusts his flag accordingly. Here I see an illustration of purely psychological Pedagogy. It gives the power of insight by which we recognize the

possibility of a human being, under certain circumstances, developing on such and such lines. It can reveal to the bad as well as to the good teacher what he is doing; to all it is useful for every sort of object; by its guidance the one may cause improvement, the other ruin.

Does there then exist such a pure psychological Science of Education? Is it desirable if it should exist? Perhaps; that is to say, it might serve as a mirror for bad teachers. And if we did possess such a thing, what would hinder our appealing to it for counsel in the attainment of noble aims? I confess we do not at present possess such a psychology in its completeness, neither do we possess such a philosophy of history, as perhaps the new Spinoza schools would like, who believe themselves able to reckon up the necessary metamorphoses of the world-spirit, and trace them in events. We will, however, just consider, in case such a science should be vouchsafed to us as a connected whole, what form might naturally be expected of it.

Whenever we perceive that which is active set over against what is passive, there appears to us a twofold and varied possibility, first, of that into which the passive may develop, and, second, of the effects which the active can produce; and the difficulty will be greater or less, according to the relative conditions of the active and the passive.[1] Certain modifications

[1] That is, the greater or less difficulty depends first on the active being a suitable means to work upon the passive; second, on the passive being a suitable subject to be thus acted upon.

follow if a third forms a link between the two, and thus from the two possibilities brings before us one actual event. You already guess that I am thinking of the pupil's capacity for cultivation, next of the means which we are accustomed to use, and, thirdly, of the arrangements for public and private education, whereby the methods of Culture come into operation.

It is manifest that a psychological Science of Education would consider first the pupil's manifold capacity for cultivation, both the natural gifts and the attained ability which comes into operation at each stage of the onward progress; that we should then have to speak of books and apparatus, encouragements and coercive measures, so as to place before us, in connection with these, certain ideal pupils, and how they are to be developed, if out of every educational means its own peculiar form of activity is to go forth in full strength; and, lastly, the discussion must turn on schools, seminaries, and the like.

But you, my friend, are perhaps already smiling at the system in letters, which is coming up like a grey rain cloud? Do not seize an umbrella too hastily. I have laid before you a classification, but I have not promised a treatise. You will soon see how selfishly I have kept my own ease in view in choosing the free and easy form of a letter.

LETTER II.

Concerning Public Instruction, past and present—(a) Recent improvements: (i.) Modifications of superficial Philological Culture; (ii.) Increased attention given to Mathematics; (iii.) Increased efficiency of the Gymnasiums; (iv.) Steady improvement generally in the Science of Education since the time of Locke.

(b) Consequences of these changes—(i.) The Gymnasiums at first *over*-rated, partly on account of their improved results, partly through the felt need of increased *public* spirit against the despotism of Napoleon; (ii.) Future development of a juster estimate, resulting in less pressure on pupils, and more care in the selection of candidates for the harder examinations.

IF we look back at that time when we first thought out together the science of Education,—before you went to Switzerland,—we shall find less alteration, comparing it with the present, than one could expect after the lapse of a quarter of a century. Niemeyer's[1] principles of Education were already then in force; they were universally known and were more carefully followed than they are now, since Germany has been roused up and renovated in so many ways. Schwarz[2] was beginning to exercise an influence. Jean Paul[1] soon followed. I believe I was the first to speak of "Instruction which should be educational." You will remember that we laid the greatest stress on the fact that Instruction was then looked upon too much as a secondary matter in education, whereas it is that, nevertheless, which generally has the most lasting effect, because acquired knowledge remains while habits and customs vary.

The expression "Educational Instruction" has since been taken out of my mouth and used very much in opposition to my views.[2] However, the expression

[1] A. H. Niemeyer, an influential writer on Education. In 1836 he published *Grundsätze der Erziehung und des Unterrichts.* He was also one of the first to insist on the importance of making use of all the facts that have been handed down to us; and with this in view, he published an *Ueberblick der allgemeinen Geschichte der Erziehung.*

[2] F. H. Ch. Schwarz, the author of one of the first noteworthy histories of Education. It was published in 1813, and was entitled a *Geschichte der Erziehung.*

[1] Johann Paul Friedrich Richter (1763-1825), (usually called Jean Paul,) the greatest German humorist, was the son of a schoolmaster and organist at Wunsiedel. He attended the University of Leipsic, and from 1787 to 1789 was engaged as a tutor in several families at Schwarzenbach. After years of struggle with extreme poverty, his literary work began to attract attention, and win for him a wide circle of admirers. In 1807 he brought out a work on Education, entitled *Levana, oder Erziehungslehre.* The book is actually a pedagogical romance, in which it is sought to answer the question how a boy "by means of his native ability would probably develop, who, removed from the harmful influences of the world, was brought up in an underground chamber. Graphically as Jean Paul pictures the moment when the boy for the first time emerges upon the upper world in all its beauty, he has nevertheless forgotten that a boy who has not had the privilege of collecting a large store of concrete sense experiences is not in the least educable, but is utterly incapable of interpreting the external world." From UFER's *Introduction to Herbart.*

[2] An allusion to a work by VON NIETHAMMER, called *Der Streit des Philanthropinismus und Humanismus, etc.* (Jena, 1808), which aroused considerable interest at the time, but which called forth the severest condemnation from Herbart. In one of his letters he speaks of it again as a book full of empty fancies and actual ingratitude to a succession of educational forerunners.

matters little provided the meaning is realized. Does the Instruction of the present day deserve throughout the name of "Educational Instruction"? It has at least gained some completeness. That superficial side of philological culture, which neglected Greek for the sake of Latin, has indeed not yet disappeared, but is much modified. Mathematics has obtained far more attention, and that would scarcely happen to-day which once occurred to me as I was going through the class-rooms of a celebrated Gymnasium. On the blackboard had been written an exceedingly simple equation of the first degree, and when I said "That is of course for the Third Form?" the answer was, "No, that is for the First." The efficiency of the Gymnasiums generally has been increased; aristocratic families have resigned themselves to the fact that their sons must exert themselves if they are to be ready for the University.

Of the Pestalozzian enterprises,[1] on which in our younger days all eyes were turned, you know more than I do. You can judge whether the thing was as worthless as people have since represented it; at least, I am not yet ashamed of my object lessons, the idea of which I obtained from Pestalozzi; on the contrary, I am still going on with them. To be sure everything which is heralded and carried on with exaggeration and enthusiasm necessarily declines; it has done its work, when it has changed into energy and attention the inertness and indolence which it first encounters. Would that we could speak with as much praise of the philo-

[1] For the relation of Herbart to Pestalozzi, see Introduction, p. xxii.

sophical schools of that time. Would that we did not see here indolence as the consequence of exaggeration, and to some extent a feverish heat, which only leads to disintegration.

In my opinion we are justified in holding the favourable opinion, that since Locke the Science of Education has made steady progress, even if not always in a straight line. Certainly much remains to be desired; much indeed must change with time and circumstances. If Niemeyer were to write now he would derive his illustrations from quite a different circle of experiences from that which forms the basis of his celebrated work. Nevertheless the fundamental ideas would be the same, though they would be practically applied in different ways. Pedagogy changes slowly; it follows neither speculation[1] nor experience alone, but shows traces of the effects of both, which modify and correct each other.

Are you shaking your head, my dear friend, as you read what I have just written? I should indeed like to know; but I am not sure about it. Opinions are

[1] *Spekulation:* this word is throughout used by Herbart to signify reflection concerning causal connections. In enumerating the different kinds of interest, Ufer distinguishes experience and speculation thus:—

"Knowledge derived from the sphere of experience may direct itself towards the much, the many-coloured, and the manifold, and the mind may take pleasure in the variety and novelty of impressions. The excitation and eager continuance of endeavour in this direction is called *empirical* interest.

"The element of the obscure and enigmatical, as it is met in the facts of history, urges, from a mere observing, as it predominates in the empirical interest, to reflection concerning causal connection; in order to understand facts and events, one seeks to become clear

always wont to differ about a thing which has changed with time. So much, I think, you will concede to me, that the instruction of to-day, especially in the Gymnasiums, has a completeness and a brilliance which was not known in our youth; and the desire might easily seize us to be young again, that we might make the Gymnasiums of that day furnish as complete a course of study as is now provided for receptive minds. Doubtless also the present teachers feel how much they are valued, and so, pleasure in, and love for the work last much longer than formerly. Teachers remain longer useful, and ripeness of age, of experience, and of judgment, is combined with power that is better economized for practical use; certainly a great advantage over a former age, which naturally wore out more quickly the worse paid and much less respected teacher, while it would go on employing him even when he was useless for anything else.

If the dream of our youth should return once more, of wishing to achieve something great by the improvement of Instruction, should we also lay as much

concerning their causes and conditions. An effort of this kind presupposes a mental activity, to which Herbart gave the distinguishing name of *speculative interest*."—*Introduction to Herbart*, p. 61.

The man who observes the wonderful phenomena of mind, and admires its strange complexity, may be filled with empirical interest. Yet this is scarcely possible without questions arising as to the *why* and the *wherefore* of these mysteriously rapid changes. What is the cause of it all? Is it my fear which is producing faintness? or is it the disturbed action of the heart which is causing fear? Such subjects are full of *speculative* interest, and the psychologist must needs become a metaphysician. As Charles Kingsley graphically shows us in his wonderful fairy tale, "Madam How" is beautiful, but men ever long for the rarer glimpses of "Lady Why."

stress as formerly on giving a larger place to Greek, as compared with Latin—Mathematics as compared with Languages? I almost believe the ruling bent of our educational wishes would now be a different one, because a great part of that which we once wished has been fulfilled, though in many respects certainly in quite a different way from that in which we, with our views, might have arranged it.

But a truce to wishes, at least for the present. We are more anxious to consider what probable consequences are to be expected. When the modern developments of Instruction were set on foot twenty years ago, many of the public expressed their discontent at the burden which was placed on youth, and at the severe conditions which were then imposed on candidates for the Civil Service. A little later it was seen that the burden was still bearable, whereas the advantage to able minds was no small matter. Courage then rose; the parents attached more and more value to the Instruction in the Gymnasiums. They knew that they themselves had been far less perfectly instructed; so much the more did they value the gift offered to their children. But it is not difficult to foresee that this must necessarily somewhat alter the relation of the schools to the public. The time will soon come when the pupils, whom the schools have efficiently provided with learning, will be adults. Then the parents will have to be content, if the children learn as much as they themselves have learnt, for the amount of Instruction cannot increase any more. The emotion which a father now often

feels when he sees how much more his son has attained than himself, will then be fairly a thing of the past. On the contrary, words will then be oftener repeated, which are not unknown even now,—words of encouragement from experienced fathers, who promise their sons, that the youthful pleasures of the next generation shall not be so severely curtailed by the useless cramming which they personally had to undergo, though they were never able in later life to give a satisfactory answer to the question *Cui bono.* So also will those speak to whom the present scholarly Gymnasium instruction has been offered, when their natural capabilities were not able to advance in proportion; for whom, on account of clever rivals and the present strong competition, the road to civil office, if not quite closed, was opened too late, and who have then afterwards devoted themselves to country life, the army, and industrial pursuits of a higher or lower kind. Am I making a mistake about this? Do not the majority of the final school examinations, along with much that is encouraging, also furnish us with sad evidence of how difficult it becomes to the Gymnasiums to get rid of these pupils, whom it would have been better never to receive than to be thus troubled with them? If such people have a little common sense they will take care not to expose their children to the danger to which they themselves fell a victim, without proper examination into that which nature demands or refuses. The Gymnasiums will keep their admirers, but only those to whom they have been useful, and the admiration will slightly decrease,

for performances which now evoke astonishment will come more and more into the sphere of the ordinary.

You, my friend, were close to the whirling current of Pestalozzian thought at the time when the present Gymnasium system was in preparation, but you need only glance at Fichte's *Address to the German Nation,*[1] to form an idea of that which perhaps you could not observe for yourself with sufficient clearness. There was a time when the adult race almost despaired of itself. Hope centred on youth, but on a national youth not yet existing in Germany. It was evident that private teachers were not capable of developing it. Besides, even if much more efficient than they are generally, in the most favourable cases they only help the family spirit, and instead of a separation into homes and families, a general rising was wanted against the despotism of Napoleon. That is why the incompetence of private teachers was attacked so severely, whereas the public schools, on the other hand, were praised and recommended.

[1] See note on p. 21.

Letter III.

State Education—Confusion in men's minds of the true proposition, "True education brings advantage to the State," with the false one, "Education is the more true the more advantage it brings to the State"—Relation between the State, the Family, and the School—The State is the Confederation of all Families, only in so far as families fall into a State classification according to professions, means, claims, etc.—Thus the State founds schools to educate soldiers, civil officers, scientists, etc.—Main objections to State Education: (i.) The State thus educates on the principle of utility to itself alone,—if the individual development is at all taken into consideration, it still remains with the family to see that the help is applied to the right cases; (ii.) School discipline is generally good for strong, but not for weak, characters; (iii.) The instruction may be too rapid for the indolent pupil; (iv.) Onesidedness is apt to appear (*a*) in the instruction, with a view to gain some special end; (*b*) in the teacher's observation of the children, which is confined to such characteristics as appear in school life; (v.) Difficulty of ensuring a high moral standard in a boyish community—The danger of Fichte's proposal for societies of boys, separate from, and independent of, adults; difficulty of subduing incipient barbaric tendencies without the gentle influence of the family.

Conclusion.—Not that private teachers should be exalted at the cost of the schools, but that no improvements in schoolmasters or curriculum will make up for the loss of the family spirit as the basis of Education.

NOT you, indeed, but many others have hinted or said plainly to me, that I trouble myself too little about my opponents. Perhaps, for once, I will stoop to do penance for this offence. Therefore, in order to avail myself of the opportunity I

will, in thought, add a Momus to my former letter, who scoffs at my utter folly.[1] For nothing more foolish could be thought of than to proclaim a Science of Education thus: It is not to be a Science of State Education. In our times, when the minds of all men are full of politics, it is a matter of course that no one educates or demands education except just for the sake of the State, or, at least, to serve some party in it. Momus will also easily call up against me a Thrasymachus, who opposes me, perhaps, with the following dialectic:

The Right is the advantage of the stronger.[2]

But the State is far stronger than the family.

Consequently the Right is rather the advantage of the State than that of the family.

We need only include right education under the concept of that which is right, and the conclusion is complete.

[1] Momus was the god of mockery and censure.

[2] The reference is to a passage in PLATO's *Republic*, book i. Socrates and Polemarchus are discussing the nature of Justice, when Thrasymachus, the well-known sophist from Chalcedon, having listened for some time, can no longer hold his peace. "Gathering himself up, he came at us like a wild beast, seeking to devour us. We were quite panic-stricken at the sight of him. He roared out to the whole company, 'What folly, Socrates, has taken possession of you all! And why, sillybillies, do you knock under to one another! I say that, if you want really to know what Justice is, you should not only ask but answer. . . . And now I will not have you say that Justice is duty, or advantage, or profit, or gain, or interest, for this sort of nonsense will not do for me. I must have clearness and accuracy.'" He was at once ironically pressed by Socrates and the company to give his own definition, and at last proclaimed, "Justice is nothing else than the interest of the stronger."

Right education is far more the advantage of the State than of the family. Consequently it must keep this in view, otherwise it is not the right kind.

Yet such crazy logic is not too bad for the great mass of those who admire, love, honour, and praise only that which is strong, and who, when their discernment has been spoiled, cleverly attach themselves to him who is strong, and are thus just as difficult to put to shame as that platonic Thrasymachus,—a figure that we shall see unveiled often enough in Germany if the fatal scheme to provoke political passion succeeds. Is it a great step, if we pass from admiring Napoleon, to accepting the statement, "The Right is the advantage of the stronger"? The glitter of power, the pomp of victory, contrasted with the misery of the conquered,—this spectacle turns men's heads till they reach the shameless assertion of unjust nonsense.

But matters need not go nearly as far as this to win assent to the ambiguous proposition—right education is the advantage of the State. For, in the first place, no one doubts that the presence of well-educated citizens would be more advantageous to the State than that of the badly educated. But in our age of mistakes and paralogisms,[1] the two propositions—

"True education brings advantage to the State," and: "Education is the more true the more advantage

[1] *Paralogism*—a rarely-used word, meaning an illogical statement, something contrary to reason, error.

it brings to the State,"—stand much too near each other in men's minds as they are, for the true not to get often confused with the false. For who has organized the schools? The State. For whom has it organized them? For itself. But who profits by the schools? The family. Thus here the advantage of the family falls in with the aim of the State, as, indeed, in the postal system. For the post office is, first, to serve the authorities; but then the public is asked to share the convenience as well as the cost of it, as an institution.

What is, then, the State? Between the famous answer, "l'Etat c'est moi," and the other extreme, "the State is a union of all families," there are various opinions.[1] But daily experience proves clearly that State and family welfare, State and family affairs, enthusiasm for the State, and care for the family, are quite different things. In the advantages of the

[1] The well-known words "l'État c'est moi" have been ascribed to Lewis XIV., who, at any rate, governed in accordance with this principle. It is said that on April 13th, 1655, he appeared in hunting-dress and riding whip before an intractable Parliament, and with these words answered the first President, who set the interests of the State on a par with the royal commands. According to another version, it is said that he thus interrupted a judge, who spoke of king and State in the same breath.

The reason why Herbart lays such stress on a home education, as opposed to that of a public school, is principally to be found in the fact that the moral ideas appear more prominently in family life than in that of any other community.

We may compare with this some passages from his *Moral Philosophy*.

"The rule of Love is to be found under many forms in family relationships. . . . He who belongs to a family finds himself reflected

State some have a greater, some a smaller interest, and there is a constant fluctuation about these interests which no Statecraft, even if it wished, can equalize.

Undoubtedly the State is the confederation of all families,—not directly, however, but only in so far as families fall into different classes, according to position, profession, means, claims, and needs, and thus, as such, belong to the State. Thus the State intends that one class shall be educated with a view to trade, another with a view to the defence of the country, a third for the civil office, a fourth for the culture of arts and sciences. According to such standpoints different schools are founded. But individual differences lie too deep to be rightly construed according to considerations of mere utility, and if fathers allow themselves to be misled by anxiety for their sons' advancement into judging of their

in the other members; he reckons them as his own; in them he feels honoured or shamed; he feels *himself* neglected, if he suffers them to fall, or gives them up to fate and malicious tongues."

Herbart proceeds to point out that the members of a family lean on each other, especially if no estrangement has ever separated them, and the image of family likeness has never been defaced. For it is the anxiety lest we should appear in a misshapen form to our own relatives, which is the basis of those family duties, which themselves spring from the idea of Right. . . . Through all family relationship, therefore, runs the claim that we should not set up an example which ought not to be followed. This is the sphere of moral considerations with which the idea of Equity is generally connected; but Benevolence and Perfection come in also, if we take into consideration the different members, or regard the personality of the whole as one. For this reason we may even add inner Freedom; and, in short, anything which has to do with refined social life. (See also Introduction, pp. xxxix.–xlii.)

abilities according to this standard, the Science of Education should enlighten them. It can remind them, first, that the less useful an individual is, the less the State will trouble itself about him. Its schools are to provide it with those whom it requires. It chooses the most useful; the rest may look after themselves.

However, if it be assumed that the State should be so magnanimous as to make itself of service in the culture of individuals, even to the setting aside of its own needs, so that each one may attain as much as he is able,—still, even in that case, the same thing happens as in charity clubs. We apply the help where it is most efficacious. We wish each one to help himself as far as he can.

If schools are to meet the requirements of families, the latter must look to it that the proffered help is applied in the right direction. The severity of school discipline helps the very busy or too indulgent father in the case of strong characters, but not with those which are weak and gentle; it is of use if supervision in leisure hours and holidays is not lacking; its effects are reversed if a young man finds means of escaping from the punishment and discipline to which he has had to submit. The indolent pupil gains in brightness, industry, and order, through the example of fellow-students, if he is able and willing to do the work set; but not if the instruction is too rapid or too varied for him, nor if taste and talent impel him in other directions. The evils of onesidedness are brought under notice in public instruction, but not always remedied;

it is often impossible to avoid yielding to it in order to gain any result at all, and then special lessons are required. Children of mediocre brains go on for a long time mechanically with what is required of them; they are praised, and they are contented with their good reports; but they do not know how to use the knowledge they have gained, and they lose it as soon as possible. There is no small delusion as to the amount of knowledge which goes forth yearly from the schools: not a little of it is lost in university life as useless material. The teachers in public institutions make many observations of various pupils; but the cases are rare when children willingly reveal their inmost souls, and so these observations refer only to that which appears on the surface, touching the discipline and study of school life. So a historian sees human beings in relation to events, he sees masses of men and their movements, he does not see nor can he pay any attention to that which has no historical consequences.[1] The pupils also who know each other acquire an

[1] This fact is one of the many explained by the Herbartian doctrine of apperception. The historian has spent his life in collecting and arranging historical presentations. In them his mental wealth consists: they constitute his apperceiving factor. A new presentation is seized upon and fitted into these ready-made groups, and others which present nothing similar are passed over. (See Introduction, pp. lxviii., lxx.) The teacher in the public school is in danger of a like onesided view of his pupils, if he forgets that the actual school course is but a small part of their lives. If his apperceiving factor consists merely of the subjects of a school curriculum, his observations of complex humanity will be superficial. The Malay is right, when he says of the moaning of the wind through the bamboo trees, "The forest organ plays for each his favourite tune." We apperceive only that for which our past has prepared us.

insight into character; it were better for many if they could remain ignorant longer in this matter. A social spirit arises among them; some learn to obey those whom they ought not, others to rule when it is not fit for them. One attains power by his strength, another by his self-confident bearing; the cunning boy knows how to push forward others that they may carry out his plans, and all unite in maintaining a code of honour, secrecy, and mutual help in times of difficulty. The larger such a boyish community is, the more it should be controlled and watched with suspicion; but increased appearance of despotic rules will be accompanied by an increase in the secret resentment they arouse, and in the tendency of the pupils to hope that some day they, too, will be despots. Does anyone think it easy to prevent or remedy such evils if the influence of the family spirit be despised?

You, my friend, will certainly not think that, for you have educational experience. But that which Fichte propounded in the year 1808,[1] when he dreamt of his new education "in which pupils, severed from adult social life, should yet live together as in a society, and so should form for themselves a separate

[1] Johann Gottlieb Fichte (1762–1814) combines "the penetration of a philosopher with the fire of a prophet and the thunder of an orator." Over his whole life lies the beauty of stainless purity. The victories of Napoleon at Auerstadt and Jena drew from him the famous *Reden au die Deutschen.* These addresses were delivered in the winter of 1807–8, while a French Marshal was governor of Berlin, and the lecturer's voice was often drowned by the tumult of the enemy in the streets. In them he lamented that age had denied him the privilege accorded to Aeschylus and Cervantes of making good his words by manly deeds.

and independent commonwealth,"—such a view, I say, deserves to-day even a severer criticism than it seems to have found at the time when it was uttered. All honour to the man, who, in the moment of danger, had the courage to give loud and emphatic utterance to any proposal for the salvation of the nation. But a proposal which, at a most critical state of affairs, appealed to the heart of a whole nation with all the dignity of intense earnestness ought not to have lacked thoughtful attention. Now in this case the mischief was by no means taken into consideration, which is caused by the rough psychical mechanism in that great crowd of boys and men, who, without the gentle influence of the family spirit, measure their strength one against the other, till some are subdued, others take the lead, and the greater number adapt themselves to their surroundings. Such a struggle does not carry with it the slightest security that the best will conquer. Amongst lively boys, crowded together and shut off from other people, all evil and barbaric tendencies must always arise; and even after the application of the greatest severities on the part of adults, the tendencies would be only concealed without being remedied. Armed bands for mountainous warfare, qualified to fight in ravines and forests, might grow up in this way,—dangerous first to the enemy, then to their own land. The nation required very different deliverers, and it has found them. But a predilection for schools has remained; as if the friction amongst many pupils brought not danger, but safety; as if the sharpening of the intellect which it furnishes were

moral improvement; as if the brotherhood, which grows from it, were free from party spirit; as if the instruction were education; the discipline, character building; as if, speaking generally, the culture of youth were a business which could be advantageously carried on wholesale without regard to individuals, even as factories by machinery. Let us be on our guard against favouring this view, otherwise we might indeed have the fanatics on our side, but the experienced men against us, especially those whose ethical ideas have attained a suitable degree of refinement. A truly praiseworthy endeavour and line of action, but it bears the stamp of a past age!

Do I seem to wish the golden age to come back to private teachers? Certainly not, at least not at the cost of the schools. But this you know, that in the matter of education I regard the suppression of the family spirit as in the highest degree culpable, and this is just the point to which I would now require your somewhat prolonged attention. Scholarly zeal, higher salary, increased respect for the teacher's position, examination laws, patriotic impulses, the ever widening prospect of State promotions of various kinds—all these working together may rouse youthful activity directly and indirectly; the result is something quite opposed to education if the family spirit is either altogether absent or working in a different direction. It results in brotherhood with fellow-pupils or its reverse, partly the subordination of the weak to the strong, partly discord among those who lay claim to the same things. Undoubtedly we may praise in

many ways the aristocracy of the cleverest, and the enforced modesty of all others, who early learn to know their natural limitations; but these are political words of praise, not educational. The teacher does not compare his pupil with others, he compares him with himself, he compares that which the youth becomes with that which, probably, he might have been. He is content with none who lag behind their own possible ideal, he is discontented with none who become as great as could presumably be expected of them.[1] Where, then, should the incentive lie which develops the man according to the measure of the power which is in him? Each is attached first and most distinctly to his own family. But what shall we do with those pupils, who, through loss of parents or some other misfortune, are in such a position that they do not know to whom they belong? You must have experienced, my dear friend, even as I, the uncertainty

[1] This should be compared with a remarkable passage in *The Science of Education*, p. 109: "The teacher must represent the future man in the boy, consequently the aims which the pupil will as an adult place before himself in the future must be the present care of the teacher; he must prepare beforehand an inward facility for attaining them." Again, on p. 112, Herbart contemplates the possibility of a teacher setting up a worldly aim for the boy committed to his care, and asks: "Who will warrant us that the future man will not himself search out the good, to make it the object of his willing, the aim of his life, the standard of his self-criticism? Who will protect us against the severe judgment which will then overtake us? How will it be if he calls us to account, because we presumed to anticipate the chance which yet perhaps might have brought about better opportunities of genuine elevation of spirit. . . . It is never safe to set up as business manager for another if we have no mind to do the work well." (See Introduction, p. xlix.)

attaching to education in such cases. However, let it suffice for the present, if you are not displeased, that quite at the beginning I thought it more suitable and more necessary to speak of family relations (as contrasted with an avowed or disguised political Science of Education), than to appeal to the principles of practical philosophy and psychology. The system to which we have accustomed ourselves will steal upon us quite soon enough; at least it stands ready for our use; and even if unused, it serves as a ground for my hope that I may informally lay before you for examination a fragmentary work to be useful or helpful in any way you please.

Part I.

INNATE DIFFERENCES.

SECTION A.—PHYSIOLOGICAL DIFFERENCES.

LETTER IV.

Individual peculiarities—Their basis in the reactions between soul and body, with special reference to Sensibility, Irritability, and Vegetation—Disorders arising from physiological deviations from the normal in quality and quantity—Educational considerations as regards: (A) Diseases arising from an impaired quality in the organism; *e.g.*, idiocy, scrofula, etc.; possible disappointment to teacher and pupil in the case of the scrofulous subject—Necessity of making physical health the first consideration—(B) Diseases arising from impaired quantity—Fevers, and the weaknesses connected with undue *vascular* susceptibility;—Difficulty of attaining any continuous steady development in such cases—Derangement of health—Reaction of the *whole* organism against any foreign body causing disease;—Independence of the different organs in health, *e.g.*, digestion, brain, etc.—Undue irritation proceeding from the vascular system; restless boys, the mental dulness which generally follows;—General weakness of the vascular system; a more hopeful case, since it will improve with increased physical vigour, whereas in the former, the excitements of youth may quite destroy educational gains.

I HAVE often noticed with wonder, my dear friend, how quickly the family characteristics are brought out in pupils by a short stay with their relatives during the holidays. If the permanence of those peculiarities in manner, speech, and interests, which

obviously take root in many homes, were the same thing as the family spirit—which I wish to see in Education ruling over the political—then we should no longer need to desire that which would take place of itself. Or, if only affection for one's relatives were as quickly acquired as family likeness, it would surely on that account be worth while to wish for the latter, for the son's effort to please his parents is certainly the firmest centre round which we may collect, and, as it were, condense in him moral impulses.

But I will not weary either you or myself with discussion about this matter. Speaking generally, let us, for the present, refrain from pious wishes. We too, indeed, must learn to take things as they are, and if the question *why* they are thus should also occupy us, at least it may give rise to a more pleasant conversation than the consideration of that which should be different, but which we cannot alter. Family likeness reminds me of individualities of many kinds, which will never adapt themselves to the form of one general plan of education; thus also of the manysidedness of educational experience, since in our own doings we are obliged to bear the reaction of every individual, according to his peculiar nature.[1]

The inborn is an heirloom; the habits acquired in earliest years are a dowry. If necessary, let this

[1] That is, if we exercise an influence, we cannot but submit also to the "return influence," or reaction from the person whom we have thus affected; and each individual returns our influence in a way peculiar to himself.

analogy be my excuse for the sudden change of thought which I am about to introduce.

Why does the same education have such different effects on different people? Wherein lies the individuality which, as a rule, sets itself unalterably against us? No materialistic physiology is required to remind us that bodily differences must be reflected in mental expressions, and you will not be vexed if I ask you to glance even beyond physiology, at the science of medicine, so that we may see, not only the general fact of the union between soul and body, (for this is not the subject of our research), but the characteristics of these bodily differences. Help me to make extracts from the exceedingly clever writings of my honoured colleague, Sachs,[1] whose two large, though, unfortunately, still unfinished works, besides shorter writings, now lie before me. Whilst I invite you to this, will you kindly refer sometimes to my *Natural Philosophy*, a book which is well known to you, in order that the connection with our present aims may be the clearer. Permit me to direct your attention to a few facts.

The names *Sensibility*, *Irritability*, *Vegetation*, are familiar.[2] If a medical classification of diseases can be

[1] Ludwig Wilhelm Sachs, who was born in 1787 at Grossglogau, and died in 1848, was in 1818 Professor of Medicine at Königsberg. He was a man of great learning and, like Herbart, vigorously opposed in his writings the upholders of the old Faculty-Psychology. He was for this reason accused of being one of Herbart's adherents.

[2] Sensibility,—generally capacity for feeling,—denotes here specially nerve-activity, as it appears in the living animal organism. Vegetation (*i.e.*, nutrition or assimilation), refers to those processes in the organism on which growth depends. Irritability (*i.e.*, sensitiveness)

connected with them, we may expect similar deviations from the common normal to arise, even in a state of health, the remote consequences of which will be perceptible to the educator as hindrances to his action, and will the more surprise him the less he has concepts at his command to which he can refer back for an explanation. You know well that it must

is the capacity of the tissues (especially the muscles) for being affected by, and reacting on, external influences.

Herbart has adopted these names from the works of the famous doctor and anatomist, Albrecht von Haller (1708–1777).

Sachs divides all forms of disease into three classes:

(i.) Inflammatory diseases, in which the sensible and irritable system generally protects itself against some foreign danger which presses in upon the organism.

(ii.) Fevers, in which the reaction is specially from the side of irritability.

(iii.) Nervous diseases, in which the reaction is the result of the nervous system.

Fevers, in which the nerve-system has been injured or arrested as to its power of reaction, fall into three classes:

(i.) Synocha (inflammatory fever), in which the nerve-system cannot itself react against the foreign irritation, but is able to rouse the system of irritability to energetic reaction, since both systems, sensibility and irritability, pass into a state of the greatest activity. This is frequently accompanied by the inflammation of some central organ—brain, heart, or lungs.

(ii.) Nervous fever, in which the nerve-system is so attacked that it cannot itself even rouse irritability to vigorous resistance; a reciprocal action of a fitful character from both systems is the result.

(iii.) Putrid fever, in which the nerve-system is so oppressed and paralysed that it cannot in any way rouse the system of irritability.

Herbart's classification takes the following form:

Deviations from the normal as to

A. *Quality*. Examples: idiocy, scrofula, etc. (1).

B. *Quantity*. (*a*) Nerve-system checked; fevers (2): inflammatory, nervous, putrid—(*b*) Inflammatory diseases: entrance of a foreign body (3), vascular irritation (4), vascular weakness (5).

be far from my thoughts to change psychology for physiology; but when we deal with the actual human being as a whole, have we there simply psychological effects? Certainly not, rather do we see mental activity restricted or promoted by the constant co-operation of the body; and to investigate the exceedingly varied character of such co-operation must be important to us, even if it should appear that the advantage of such considerations can be but small for the Science of Education. If others seek to find more than is reasonable in the body, and fail to appreciate the mind, we for our part must necessarily draw the opposite conclusion. There is much more to be found on the mental side than on the physical, while there is less in the latter than people have thought, though it is still always important in limiting less fruitful inquiry, and keeping a place vacant for that which is of consequence.

The course of the investigation will bring out a very simple distinction, viz., a division according to quality and quantity. If nerve and blood are altered in quality, quite a different class of diseases, or, speaking generally, of abnormal conditions, arise, to those which result when only the relations of quantity deviate somewhat from the normal. As an example of the first kind, I might mention gout; but there is another which interferes with educational thought only too much as a frequent childish ailment—that is scrofula. On the other hand, in the second case, wherein at any rate at the outset only a relation of quantity comes into consideration—(and the first or original stage is the only one of importance to us, since we have not to do with developed diseases, but only with tendencies to disease) —in this second case, I repeat, a new distinction is necessary in order to define the chief classes of disease. We all know, at least superficially, that disturbance of the vascular system (the heart, arteries, and veins), which we call fever. Our guide bids us here regard the activity of the nerve-system as checked, whilst he places the so-called intermittent fever in quite another division, so that the whole class of properly-speaking feverish diseases reduce to Inflammatory, Nervous, and Putrid fevers. But there still remains a large class over, after we have put fevers collectively on one side. That is, if we are no longer to regard the nervous system as checked, we must expect to find that the closely connected vascular system and vegetation generally may be in an unhealthy state of excitement, and that thus the whole organism seeks to maintain itself against the existing cause of disease. And this now actually gives us the first of the three classes, which I however mentioned last, so as to be able to quote more conveniently from the works lying before me. That is, the first important class falls into three divisions, according as the general disorder of the organism has its seat specially in the nerves, in the vascular system, or in the sphere of vegetation. Before any further consideration it is clear that this class will interest us most, for we naturally presuppose that in healthy, or at least apparently healthy pupils, the harmony of the chief systems of the organism is not

materially injured, and certainly we shall not meddle with nervous and putrid fevers, but hand them over to the treatment of the physician. On the other hand, it matters a good deal to us whether the nervous system, or the system of the blood, together with irritability, or lastly mere vegetation, is in the ascendency in an individual; in experience we must be prepared to find here the smallest differences, far-reaching in results. Specially important to us is the nervous system, and above all, the brain. Not quite so important is the spinal cord; at first sight we might be almost inclined to ignore the ganglion system, at least that part of it which has its seat in, and which controls the abdomen, but we should soon bethink ourselves that such nerves as rendered no immediate service to mental activities might yet perhaps put all the more hindrances in their way. Also as regards the blood system, the distinction should not pass unnoticed as to whether its excitation would be more easily perceptible in the arterial portion of the vessels, or in the veins and capillary system.

If you now inquire whether these distinctions can furnish anything of educational interest, I will try to lay before you some further considerations.

1. The whole of that large class of diseases, in which the chief fault lies in an impaired quality of the organism, seems at first sight to make all education so manifestly fruitless, that no one anywhere would attempt to begin or carry it on. Who wishes to undertake the education of an imbecile,—a case which, no doubt, comes in here? And yet I might mention that there are different degrees of idiocy; that parents ought

not too soon to give up hope of a change for the better, and so on. But far more noteworthy is the already-mentioned case of scrofula, which warns us how easily the teacher may get into a position, wherein he prepares for himself bitter disappointment, in a matter which he cannot refuse to undertake. That is to say, remarkable mental activity is not infrequently combined with a tendency to scrofula. Instruction is successful, and seems to be richly rewarded; yet, perhaps, it only raises an unhappy being, who must of necessity sink down from the heights reached with the sad consciousness of not being able to maintain his position. It may be so, but perhaps the contrary will take place. The disease disappears or disguises itself during the years of bodily development, if all the conditions, exercise, pure air, special diet, care of the skin, co-operate in the proper way. The teacher will therefore be venturing on an uncertain experiment, a thing, nevertheless, which we see occur only too often, and in too many different ways. But, granted a boy of remarkable intellectual power, tainted with scrofula, or a like malady, whose family circumstances were such that one would not expect as a matter of course that he should wish to study, should we take such an one out of the position in which he was born, fearing all the time that at some future day the cultured mind would feel painfully the lack of a strong physical support? I am doubtful about it as far as you and I are concerned; rather do I think that in such a case we should consider health first and mental culture second.

2. Would that every kind of fever would leave the educational sphere alone; it is bad enough if such cause household cares. But I will not omit to notice that my educational experience could furnish some confirmation of the statement, that in fevers the nerves are affected, for I can think of people who never seem beyond reach of fever, even when they are well. Their vascular system has remarkable susceptibility, and they become flushed or pale without special cause; a state of confusion in examinations, burning cheeks during moderate exertion or reproof, painfully suppressed weeping if crossed in trifling matters, and at the same time incapacity, or at least great difficulty, in composing themselves when once the emotion has been aroused,—these and similar signs lead one to the conclusion that in such the nervous system has susceptibility to excitation, but no adequate power of resistance to the reactionary effects of the vascular system, and thus no power to rule or control them. If wit, taste, and versatility now raise the spirits of the teacher, he must set bounds to his hopes. For even in the bloom of health there lurks a weakness in this tendency to a feverish condition, which will not allow anything of a continuous nature to come to perfection. Thus we cannot reckon on that composure which is necessary if we are to attain by learning a sure foundation for knowledge. We must expect to find many things soon forgotten, others distorted; and this evil will not cease until perhaps a welcome strengthening of the vascular system takes place, whether it be a gift of nature or chance, or the work of careful dietetical treatment.

Let us compare this case now with the former. We perceive in both disorder in the nervous system, in both also some hope of improvement, but under very different conditions.

Scrofula will affect intellectual activity as a connected whole less disadvantageously. It will permit the building up of a lofty mental structure, but it threatens it with the worse downfall the higher it rises. The irritability of the vascular system will cause more local disorders, and will permit less learning; on the other hand, it will give greater variety to the emotions, more play to the feelings, and will cause weal or woe to both. The worse cases of torpid scrofula, or of actual disease through exaggerated vascular irritability, we may pass over here.

3. Now if we take it for granted, as a suitable hypothesis for all education, that the body is healthy, we must then unquestionably admit, that in case of the entrance of some foreign element which might cause disease, the whole organism will be immediately ready to carry out a reaction. In this, not only brain, spinal cord, and ganglionic centres, but also the blood, with the organs which conduct and purify it, the nervous system, and even vegetation with the digestive organs, which prepare its way—each and all have their part to play. I say intentionally "in case of the entrance of a foreign element which might cause disease!" For so long as it is not required of any organ to give up the wonted sphere of its activity and respond to a foreign stimulus, it is inversely quite characteristic of the signs and requirements of health

that the organs severally, according to their then existing circumstances, should continue their functions without the interference of the one with the activity of the other. To be sure, even in the best authors we read the words "the life act of the whole organism is but one," but we scarcely need the reminder that in this we must recognize an element of the idealistic nature-philosophy of Spinoza. We may content ourselves with the most familiar experiences. Nothing is more certain than that the really healthy man is not conscious of his body. The famous opposition of the ego and the non-ego comes to pass quite casually; even the Idealist as a healthy man considers the inquiry touching the "mediator" between our individuality and the outer world, (*i.e.*, the body) as irrelevant, until it perhaps occurs to him afterwards to investigate in his own way air and light; but he investigates neither the spinal cord, nor the *cauda equina*, nor the *pia mater*, nor the *dura mater*, because since he has learnt nothing about them he knows nothing, and ought to know nothing, *or he would cease to be a healthy man.*[1] No organ ought to draw

[1] The *cauda equina* is the lowest part of the spinal cord. The *pia mater* is that very fine membrane which encloses the brain and the spinal cord. The *dura mater* is the strong membrane which constitutes the outermost covering of the brain and spinal cord. The point Herbart seems to emphasize is that the most important physical processes, even those which are intimately connected with the higher mental life, are sub-conscious in a state of health. The outer world presses in upon us from our earliest years, and their very continuity prevents our noticing the reactions it calls forth in our nervous structure. When disease sets in, and the organism fails to adjust itself to the environment, the creaking machinery attracts only too much painful attention.

attention to its individual existence; none ought to proclaim its activity or inactivity,—that is to say, none ought thus to bring into prominence a change in the condition of the nerves of the brain. Whilst digestion is going on the brain yields to thought, and that which now busies the thinker, out of the entire thought region, must be a matter of as much indifference to the digestion, as the various foods which are at the moment being digested, should be a matter of indifference to the brain. Thus if it should happen that a regulated diet has to be observed, if it even becomes necessary to remove from the working hours the time after meals, as unsuitable for study, perfect health is no longer present.

You will not so misunderstand me as to think that in this I wish to oppose the most common laws of prudence in diet. Who would advise wilful imprudence? Disease is always threatening, and it threatens the most healthy. Perfect health is an ideal; proximity to it marks the degree of the present relative health of each individual. And doubtless I might have called myself comparatively healthy in my young days, when I had my dinner daily immediately before school-time, and then ran hurriedly down the street to sit on the school bench and learn my lessons. What organic process goes on more easily, what less disturbs the rest of the organism in youth than digestion? And how much, on the contrary, has it to be noticed and considered in more advanced years! For many years I laughed at those who warned me, that it was not good for the health to walk

quickly whilst deep in thought. I walked miles and miles actually as a means of mentally botanizing the better. And now,—but silence on that subject.

In short, the more removed from a condition wherein the different parts of the nerve-system demand the co-operation of each other's activities, excite even the vascular systems and at last drag vegetation itself into play,—I repeat, the more removed from such a state of things, so much the better will that be which we teachers call health. The boy should be able to sit still. He should also be able to run when he wishes, or is ordered to do so, without trouble either to the brain or the spinal nerve-system.

4. We do not, however, find it thus always. Very often those who would willingly work whilst sitting still appear to need some movement; they change the position of the body, and stretch out arms and legs hither and thither. No doubt this is due to some irritation, which, going forth from the vascular system, communicates itself to the ganglionic centres and the spinal cord. In rare cases there are little boys of so restless a temperament that they cannot keep their feet still a moment during the most pleasant stories or conversation. Experience tells us that in later years we may then expect dulness of mind, and cessation of mental progress, combined with unwelcome and premature excitement of the vascular system. Who would mistake such a condition for that of lively, active boys, who may indeed show themselves quick at running and jumping, and also in seizing, lifting, or handling anything, but who do it always with a

purpose proceeding from the mind, and not as if mercury were in the blood and made itself felt in opposition to the brain. If we had attended more to the condition of the blood and required less of the brain, perhaps we might, with a somewhat low diet, have quieted the vascular system, and done more to prepare the way for later mental culture. Still I confess that I consider a real change in such natures very doubtful.

5. There is no doubt that great attention to physical welfare attains far better results in the case of those in whom we notice weakness of the vascular system, and consequent relaxation of mental vigour. Careful diet and good nourishment help gradually to supply the lack; and then instruction also is more effective. However, we must compare this with what has just been said. These excitable temperaments do not exactly make instruction difficult, until the period of youth, but then the storm of emotion brings devastation into cultivated regions; the gains of instruction are for the most part lost. On the other hand, one has seen pale, bloodless children, whose mental activity is for a long time at a standstill; they hesitate over their words, while the wrong answers regularly make their appearance before the right ones; but as the system of the blood becomes more vigorous the stream of thought gathers strength, and although the early boyish years have produced but little, a later age, nearer that of youth, brings compensation for it.

However, the important relation existing between the systems of the blood and the nerves, reminds me of a subject of such consequence to every teacher, that

in comparison other things often appear trifles,—that is memory, the first of all the faculties of the mind, on which all instruction, the best as well as the worst, builds its hopes. For neither the senses, nor the understanding, nor feeling help the teacher to attain any result worth mentioning, if what was learnt yesterday be forgotten to-day, no matter whether it were seen, or thought, or felt.

LETTER V.

Memory depends on (i.) the structure, and (ii.) the unchanged reproduction of presentation series—Hindrances in (ii.) obviated by shortening the time allowed to elapse—Memory faults: (*a*) altered successions; (*b*) omissions; (*c*) intrusion of foreign matter.

(*b*) Omissions, frequently caused by failure to understand in the first instance, *e.g.*, in a lesson continued too long, nerve irritation ends in the reactionary effect of the vascular system on the nerves, causing failure to apperceive and, therefore, remember.

PHYSIOLOGICAL CONDITIONS OF A GOOD MEMORY—A right relation between the vascular and nerve-systems, otherwise vascular action may disturb the process of perception and crush retention in the first stage—Possible connection between rapid or excessive growth, and general memory weakness.

SEE, my friend—even I have come to talk about memory as a faculty of the soul! Ought I not to be shocked at myself? At least, I laid aside the pen as it occurred to me, how often even you, in the midst of educational experiences, may have found it difficult where this was concerned, to preserve your faith in my psychological researches. For do we not see before our very eyes that some boys have naturally an excellent memory and some have not? Do we not see that in this the question as to the existence of a good will has very little to do with the matter? The greatest efforts of pupil and teacher cannot obliterate marked difference. Even the other faculties of the soul, (see how generous I am!) do not make the situation

any more comprehensible. No special intelligence or lack of intelligence shows itself in the fact that one easily repeats what the other forgets. Even the lack of interest does not hinder the former from retention, whilst the latter, to be sure, only forgets the more easily that which he does not consider necessary to impress upon himself. But the phenomena of memory are too varied for me to distinguish and investigate them all at once. We shall often have to refer again to the subject. For the present let it suffice to consider them only in connection with my former letter.

Memory depends on the structure and unchanged reproduction of the presentation series. The hindrances thus lie either in the original structure of the series, or in their reproduction. Those inaccuracies which lie in the reproduction, we may consider as, for the most part, removed, if we allow no time, or very little time, to elapse between learning and repetition. For what we, properly speaking, call forgetfulness requires time; other thoughts must have intruded between the committal to memory and the repetition; even the worst memory is still generally correct after the lapse of a quarter of an hour. And yet does not many a boy forget the very word which he has looked up in the dictionary only a couple of minutes before? One who is not accustomed to the use of the Logarithm tables, will scarcely retain seven figures accurately enough to put them on paper, without referring more than once to the book, and carrying out his task piece by piece. Nevertheless, if we shorten the time during which the thing observed

is to be retained, we shall in any case make clearer the observation required. There is at least, then, a re-appearance of a part of that which has been observed, but in a distorted form, if the series formation has been faulty; distorted either through altered successions, or through omissions, or through the intrusion of foreign matters. The second of these faults is the simplest; the first and third may for the present be ascribed to erroneous reproduction, although both might arise quite reasonably, even during the process of perception.

As regards omission—the exact opposite of retention—we must ask first whether what is omitted has in every case been understood. If the lesson lasts too long for the pupil, we soon notice that he fails to understand anything. No wonder then that he retains nothing even for a minute. This process is indeed generally physical, on account of the heaping up of many quite fresh presentations; but we notice often enough that the wearied pupils can no longer give an account of the best known facts, they seem to have forgotten everything, even that which they may again know the next day. If we do not even then cease teaching, (though indeed it was time to do so long before), physical discomfort betrays itself at last quite unmistakably, and, indeed, as emanating from the condition of the vascular system. Look and colour warn us to tell the pupil to stand up that he may have exercise, which means that the circulation of the blood may be again free. An emotion has arisen for which there is perhaps no suitable name, but which plainly

includes in itself the two constituents of every emotion,—irritation of the essential parts through the nerves, and reactionary checking of the nerves on the part of the vascular system. Some time must elapse before this emotion is again quieted.

Is this excitation and arrest always a hindrance to learning? We are reminded of much that was learnt with tears and sobs, but still *was* learnt and remembered. How many a tree has been forcibly bent, and then, as it goes on growing, has retained the position into which it was forced? And however unwillingly we may put it into words, there is a very healthy, youthful frolicsomeness, which must necessarily be subdued, if, good-natured as it is, it is not to be the herald of early vices, or at least permanent ignorance. But I might call this the exuberant form of memory-weakness, because it depends on existing energy, which, too soon determined as to direction, must be driven out of its course in order to be better guided. This evil, then, which is easily cured in early years, may for the present be set on one side, for it is not by any means true weakness, but only the deceptive appearance of it.

Leaving this out of the question, we may state that a right relation between the vascular and nerve system is the first essential condition of a good memory; for the peculiar state of the mind during perception ought not to be disturbed in the least, if the newly formed presentation is not to suffer an arrest, too sudden to bring the desired development

to a proper blending with that which went before and which follows. If the vascular system can thus in any way succeed in determining the condition of the brain in its own way, without being subdued by an intentional reaction from that quarter, it will then ruin,—not perhaps, the reproduction, which at other times would succeed,—but even the first series formation itself; retention will be crushed in the germ, that is, in perception.

It is not necessary that we should as yet distinguish the making of the impression, or the actual memorising from perception; enough that this far higher psychical activity must certainly also suffer much, if the cerebral states are to be exposed to the disturbance of inrushing blood-waves, or if there is any stoppage of the blood (or the lymph), from all of which the brain ought just now to be free.

Let us turn to experience; it will not, I think, fail to confirm us at this point. In the first place the well-known fact may occur to us, that great minds have often dwelt in conspicuously small bodies, whose blood-system has thus exercised no dominant germinating impulse; and such great men as Frederick and Napoleon are famous just on account of their memory, which served as a foundation to their other intellectual activity. On the other hand, I can think of individuals whose early growth, not only in height but at the same time in breadth, was connected with general memory weakness. And though this cannot be looked upon as a rule, a specially favourable structure of the brain, and obviously of the forehead,

might make up for the disadvantage of vigorous growth in plethoric bodies, just as far as is necessary to prevent memory weakness from becoming conspicuously prominent.

But it is very necessary here to think of the two other nervous systems beside the brain. For in the first place the brain is closely connected with the rest of the organism through the spinal cord; and, on the other hand, the movement of the blood depends for the most part on the ganglion system; hence, very complicated relations may arise, the manysidedness of which is perhaps the reason why common experience has not long ago led to exhaustive remarks on this subject.

LETTER VI.

DEFINITIONS: Irritability is capacity for voluntary movement—Sensibility, capacity for feeling—Vegetation, includes the remainder of physical life—As these form the basis of mental life, disorder in one or more gives rise to seven classes of mental disease. (1) Defective Vegetation: result, the choleric temperament; vivacity, often combined with discontent and contradictoriness. (2) Defective Irritability: result, the "musical" temperament (*i.e.*, in a Platonic sense); cheerfulness, mental activity, with aversion to physical exercises. (3) Defective sensibility of three kinds: (*a*) In the inner sense, resulting in the so-called Bœotian temperament, characterized by a general dulness and inertness in the mental life, untinged by excitement; (*b*) In the brain, the sanguine temperament, characterized by frivolity or self-consciousness; as a pupil, the Bœotian is apt to be indifferent and stolid, the sanguine forgetful and pleasure-seeking; cases which are Bœotian and sanguine by turns; others which are sanguine in the outer life, though Bœotian in the inner. (4) Defective Vegetation and Irritability; *i.e.*, the melancholic temperament; such subjects are peevish and yet indolent, needing help, yet incapable of finding it for themselves. (5) Defective Vegetation and Sensibility; the Bœotian subject of choleric temperament, or the knavish dunce. (6) Defective Irritability and Sensibility; the phlegmatic temperament, approaching almost to the plant's life. (7) Defective Vegetation, Irritability and Sensibility, resulting in Imbecility.

LEAVING you to ascertain whether you can derive more information from medical writings on psychical peculiarities which depend on the blood, I must now remind you of my *Natural Philosophy* in which, as you know, I have restricted the notions of irritability and sensibility more than is usual, because

I have rather followed Haller, as I could not convince myself that the extension of his class-names helped the matter to any clearer explanation. For the present I will not touch any further on the physiological questions. From an educational standpoint the consideration of the disturbance, which a rush of blood may cause in the stream of thought, is quite distinct from the consideration of strong and weak muscles, by which more or less physical activity and vigour is assured to our pupils; and for us only confusion would arise if we wished to bring into relation the former and the latter simply by the word "irritability." Just in the same way sensibility of the ganglion system, so long as thereby no sensations come into consciousness, is for us something quite different from the frankness of mind, and easy perception, on which we immediately depend for education. Do not wonder, then, if from this point I relegate entirely to the process of vegetable growth, as to the third factor in animal life, many things to which our attention is not directed in irritability and sensibility, and this, as it seems to me, not without physiological reason; for even the nerves and the muscles certainly possess vegetable growth; they certainly have their health and disease as vegetables; they must grow like all other parts of the body, and as they increase it is highly probable that they also decrease, and thus suffer metabolic assimilation, which actually constitutes the real fundamental condition of all vegetation. On the other hand, in Irritation and Sensation this change of matter does

not come under consideration; muscles and nerves have their activity here as something now existent, and not as that which is only developing. Hence I might, by way of comparison, remind you of the chief principles of mechanics. Accelerating forces produce velocities; but the first differential of space does not depend on the forces, but only on the already existing velocity.

Thus, from this point, I understand by the term irritability nothing but capacity for voluntary movement; by sensibility, simply capacity for feeling. All the rest of physical life I comprehend under the expression, "vegetation," which, as far as I am concerned, may amongst other things include, from this point of view, even the muscles and nerves.

This pre-supposed, we now proceed to a search for some method of combination. Whilst vegetable growth, irritability, and sensibility still always determine the basis upon which the mental world arises, we may refer the limitations which are to be feared on its behalf from that quarter, to seven possible cases; for either one, or two, or all three of these factors of physical life may suffer, thus:

1. The vegetable life alone may suffer, not, however, to that extent or in such a way as to produce a noticeable loss in movement and feeling. So we may see our pupil in full activity of body and mind, strong and energetic in fetching and carrying, observing and thinking, and yet, nevertheless, peevish, as one who, while apparently healthy, is yet oppressed or troubled by hidden disease.

I believe that very many bad signs, which are a source of the greatest embarrassment to the teacher, are to be traced to a condition of this sort. We cannot deny that experience shows us contradictory minds; it shows them to us even in the early years of boyhood. There are children who are never contented, who taste bitter drops in every cup, who find fault with, blame, and speak evil of everything, because they always look on the dark side of things, and even in enjoyment are never really happy. Evil in them develops so easily and so early that one is involuntarily reminded of original sin. Sometimes, but not always, their bodily structure betrays something wrong; but could anyone be surprised if, in some cases, such a thing should be completely hidden? Every capable teacher will, to be sure, put such subjects under strict discipline; will inspire them with respect and even fear; he will, at the same time, be careful not to irritate them unnecessarily, and least of all jest with them.

But these are palliative measures. Careful diet, strict moderation in lessons and enjoyments, perhaps medicine, is necessary for them. Amusement is salutary, if only we can procure it in harmless ways.

With these we contrast others, in whom the happy disposition to see everything in a rosy light reigns from early youth on into later life. Unfortunately for thought and action, they are not disposed to attain truth by means of criticism; fair illusion is the element of their life. With such the educator has no trouble, except perhaps as a teacher who has to make their mental vision more keen. The doctor will scarcely admit that these are any more healthy than the former. If only all conditions of disease were manifest to the physician! Would that at least diagnosis were not lacking in the teacher, so that he might take care not to confuse these with subjects apparently similar, but far more easy to cure, the cause of whose disease is mistaken treatment in very early years. Under this heading would come in cases where there has been severity in the father with secret indulgence from the mother, stratagems on the part of those about them soon discovered, and also successful imitation of bad examples. Improvement is difficult also in this case, but it lies then in the sphere of the teacher, who will not be obliged to ask the physician more questions than the latter can answer.

In order to give a name for future use to the first case mentioned, we will remind ourselves of the well-known distinction of the temperaments. The choleric, whose secret disorder was once sought for in the gall, in whom, nevertheless, there was acknowledged to be vivacity of body and mind, and who suffers through ill-humour without sufficient outside cause, may pass here for the contradictory nature.

2. Irritability alone may be the seat of disorder. Here we recognize the cheerful, good-hearted boy, to whom, however, through muscular weakness, inner activity is more natural than outer. Among his companions he is immediately recognized, because, by activities of a mental kind, he aspires to compensa-

tion for that honour which youth so eagerly seeks in gymnastics. According to Plato music is the antithesis of gymnastics; so we will call this the musical temperament. It is clear what the teacher will do for his improvement: he will prescribe for him movement, moderate physical exercise, baths, if possible sea-bathing; and he may sometimes stop his reading.

3. Sensibility alone may be defective, but this factor of the physical being is so important to us from a psychological point of view, that we must consider it in sections:

(*a*) There is a sensibility which ordinary psychologists would attribute to the inner sense. If this be lacking the man takes but little notice of his own states. His thoughts may change, but they do not therefore disturb his wonted composure. He knows that the vicissitudes of life have brought him joy or sorrow; *he knows it*, indeed, but no special mental excitement follows, least of all such an excitement as we are wont to call emotion. His fundamental tone of feeling remains on the whole unchanged. We will ascribe to him the so-called Bœotian temperament;[1] but I must add that I have only found it very noticeable in experience, when it was at the same time connected with some dulness of the outer senses. Perhaps the possibility of it is bound up with some addition of that sort, in those cases in which it ought to be

[1] Bœotia was a district of Greece proper, the capital of which was Thebes; it was famous as the reputed birthplace of Bacchus and Hercules. In classical literature the inhabitants of Bœotia are referred to as being noted for their stupidity,—hence the use of the word here to denote the dull peasant type.

regarded as natural temperament, and not as only the consequence of a very uniform manner of life; for to conceive of an organic tendency to the possession of an inner sense, which may be present or may not, shows utter ignorance of true psychology. Hindrances may certainly be conceived of, but even the outer senses may excite more or *less* the total nervous activity, and thus make habitual a greater or *less* flux in the emotional life. It may be, and is even probable, that there are different degrees of rapidity with which the sensations spread themselves throughout the nervous system; and that by reason of the delay which the otherwise adequate sense activity suffers in many people, the whole nervous condition attains a kind of constancy; this is maintained, even when otherwise inner apperception would tend to arouse vigorous emotions, which would determine as they liked the whole disposition, or in other words, the collective mass of presentations. Of the case when single outer senses are weak we will not speak particularly; we will, however, notice a wrong relationship, wherein the two chief branches of sensibility may appear in opposition to each other.

(*b*) As a rule the sensibility of the brain ought to be very great as compared with that of the ganglion system. This proportion may be disturbed, not indeed merely by a defect in vegetation, but actually by its rapid progress at a time when the brain does not keep up an equal advance.

Under this heading we find the Sanguine subject, who is far too conscious of his own well-being and also

of the smallest lack therein, and cannot overcome the feeling by thought or will. The Sanguine subject stands nearer to the Bœotian than one would think. In grave situations the one appears frivolous, the other patient; that is to say, both are careless if there is no immediate pressure. Still, if necessary, one will be the more quickly aroused, and the other will accomplish the most. Both, however, let things come to them, provided that the Sanguine has present well-being, and the Bœotian, peace. Both cause anxiety enough to the teacher, although the Bœotian learns diligently and regularly what is given him, whilst the Sanguine hastily seizes upon that which does not give him trouble, or waits till what is required is forced or coaxed out of him. What good is it if the Bœotian learns and retains? He feels nothing, he is indifferent to everything, if his repetition is over he has finished. To what purpose is it that the Sanguine subject easily grasps that which he immediately forgets? Even the compulsion and coaxing is effective only for a time. He will soon hasten to fling himself into the whirlpool of pleasure. The higher mental life will ever be as foreign to the one as to the other.

Some I have regarded as Bœotian and Sanguine by turns. Is that wonderful? Higher sensibility is lacking. If we ask why it is lacking we often indeed see no reason beyond the deficiency itself; at other times a love of ease is evident which would, above all things, make for comfort or merriment. Sometimes there is an incomprehensible patience in receiving reproofs and

in saying a hundred times over one repetition; sometimes the most marked impatience is apparent in the pupil, who can only be induced to sit still by the exercise of personal authority, not by the interest taken in the subject, and who cannot be forced to listen and reflect.

And often enough the Sanguine subject really lies hidden behind the Bœotian. On the other hand, he who is Sanguine in the outer, may be Bœotian enough in the inner life. The second and third classes will not detain us so long, for in cases wherein more than one factor of the physical life is lacking, the spirit is not merely embodied, but actually imprisoned.

4. Vegetation and irritability are both lacking at the same time to an appreciable extent. Such is the melancholy subject, or the sickly woman: peevish and indolent, needing help, and incapable of looking round for it themselves. Yet if sensibility is still awake there is here an opportunity for a very kindly educational providence to do valuable service, and more often than we might think it finds itself rewarded, if only it does not seek brilliant results. It is evident that education in such a case must be at once physical and mental, that it must not only strengthen, but also brighten and encourage.

5. Vegetation and sensibility are both seriously lacking. Only irritability is still prominent. What can it then produce? It can still destroy; at least, it can injure. The Bœotian subject of choleric temperament,—the knavish dunce,—belongs to this class.

6. Irritability and sensibility, both lacking at the same time; still, vegetable growth is flourishing. Thus we approach the plant's life: the phlegmatic subject vegetates. The highest degree of phlegm already approximates to the following and last class.

7. A threefold defect: vegetable growth, irritability, sensibility, are all lacking at once. This results in imbecility. To speak more particularly of the three last classes as regards education would be to abuse the patience of my friend.

Letter VII.

Different interpretations of the names given to the temperaments —Distinction to be drawn between inborn and acquired temperaments; *e.g.*, the sanguine may be depressed to melancholy by tyranny, the gentle may be made choleric by teasing, while the monotonous life of the peasant tends to produce the Bœotian—Temperament, regarded as that which is *inborn*, is a natural defect, since in the ideal pupil the three factors of physical life should work perfectly and in due proportion.

THE names of the Temperaments have been subject to many interpretations, in the same way that the four cardinal virtues of the Ancients[1] still retain the old names, though with great difference in the concepts. You might remind me even of my own psychology, wherein the sanguine and melancholy temperament has been traced back to differences in feeling; and, on the other hand, the choleric and phlegmatic, to the degree of excitability in the emotions. And where then is the Bœotian temperament? Let us in any case begin with this, so that we may afterwards throw light also on the rest. The Bœotian tempera-

[1] The so-called four cardinal virtues of the Ancients, according to the Stoics, (who regarded virtue as one, though appearing in four chief aspects), were Wisdom (φρόνησις), Courage (ἀνδρεία), Temperance (σωφροσύνη) and Justice (δικαιοσύνη). In Plato's ideal Republic, Wisdom appertains to the ruling class, Courage to soldiers, Temperance to the handicraftsmen, and Justice, as the harmonizing principle, to all classes and relations.

ment or the boorish,—which name pleases you best? Both are to signify one and the same thing. But how is that possible? Suppose that the Bœotians, as a tribe, had a peculiarly unfavourable organization as a common hereditary defect,—have peasants universally, not counting Bœotians, the same defect? You easily observe the confusion of two completely different concepts: innate peculiarity in a race, and acquired peculiarity through position in life. This is the main point also as regards the other temperaments. We can make a child, and even a man, into a choleric subject by frequent annoyances which he is obliged to endure. Perhaps he was originally the gentlest of men. By tyranny we can depress him to melancholy, if he were originally sanguine. Many an one experiences the same change of temperament through his own fault, because he plunges himself into misery and regret. And the peasant, with his trained muscles, hardened skin, habitual round from harvest to seed time, seed time to harvest, uniform life, with no prospect of riches and honour,—becomes on every spot of the earth a Bœotian, let his natural temperament be what it will. What then does it mean if anyone prides himself on being of a choleric-sanguine temperament? Certainly not the contradiction, which, according to my earlier explanation would exist, if the vegetable growth were at the same time accused of deficiency and excess; nor even the solution of the contradiction which someone might attempt, because he saw vegetable growth going on impetuously, and for that very reason, inharmoniously in its different

parts. On the contrary, choleric-sanguine ought to mean active and happy, for no one considers it creditable to be phlegmatic, that is to say, idle; and no one likes to live in a melancholy, and therefore a miserable state of mind. But still the effect of such changes is to prevent the distinction between the four temperaments from being of any use to education,—even if in psychology, (and you know how here everything is wont to fall into confusion), the feelings were duly distinguished from the emotions. For in education the distinction is very significant between what is inborn, which is fixed in the organism, and what is acquired, which ever permits hope of improvement; and so long as such concepts lie still in confusion, practice can receive no light from theory. If in psychology I permitted myself to take the words in their ordinary usage, and to make clear, as occasion served, that feelings are not emotions and emotions are not feelings, that ought not to hinder me now from marking out the temperaments collectively as natural defects, as soon as we see in them only what is inborn: so that an ideal pupil should have no temperament at all, just because the three factors of physical life in him ought to work together perfectly and in proper proportion.

Letter VIII.

Influence of defects in social surroundings—The case of a gentleman, remarkable for justice, high principle, ability, and successful attainment, whose children, in spite of apparently the utmost care, had not turned out well—Possible causes: evils of too many tutors; dangers inherent in the possession of great wealth; absence of impulse to earnest work—The opposite case of hard surroundings: the "withering of the southern plants born in a northern clime."

I HAVE just come back from an excursion to ——. A few of the company were still together; amongst others some foreigners, who were pleased to meet each other and be reminded of acquaintances at a distance. The conversation turned on agriculture, and on neighbourhoods where it was in a specially flourishing condition. The talk for some time was about a gentleman, who, when he had come into his property, found there only swamp, sand, and half-used-up woodland, but who, through industry and good management, had made out of it a paradise. His severity was called to mind against even the slightest carelessness, but with it his perfect equanimity, with regard to loss which occurred through natural events, to which no blame attached. His skill in ruling men was especially praised,—often, to be sure, a rule of considerable sternness, in accordance with the principle, "Love must spring out of severity." His taste was also commended, and

the elegance of his social life, the liberality with which he showed visitors what was worth seeing, the favour and respect which he had won from high and low. In short, they described a man, to whom, according to the above analysis, I should probably ascribe no temperament at all, but who, in the ordinary usage of speech, might have been called in the main choleric, and also in a less degree sanguine.

The conversation also turned on the sons of this man, only to that extent, however, that the sons of very rich parents do generally make themselves talked about. Had economy, eagerly pursued perhaps, occupied the man too much for him to think of education? Oh no! many tutors had been employed. Had womanly co-operation been lacking? Not so! mother and father lived for their children. In what the failure actually consisted I obtained no information, but was left to my conjectures.

The thought first occurs to us both, my dear friend, that the many tutors are somewhat suspicious. For supposing even that one of them had all the responsibility as a teacher, that this one had at least known and taken to heart Niemeyer's principles, and that he was above being blinded and led away by the splendour of a wealthy household, so as to seek enjoyment rather than work, the question still remains whether the others would willingly afford him proper assistance; whether the soul would thus be so uplifted through religion,—so guided into the past by means of history,—into distant lands by means of geography,—as would be necessary to balance the possession of a glittering

environment, which only invited enjoyment. As regards this point I leave it to your judgment whether the question might not perhaps be inverted. For we might have supposed just the opposite, that the consideration of distant lands, of the past, and even, in such a connection, of that which is higher, if it did not penetrate very deeply, might have resulted in a sort of diversion, and have drawn away practical thought from immediate concerns. Otherwise the worthy economist might at least have had the joy of his sons treading in his footsteps, and, like him, employing themselves in the scientific management of field, meadow, and forest. Instead of following out these thoughts here any further, I must explain to you why I let something apparently foreign to the subject come in after my earlier remarks about temperaments. Certainly not with the idea that the sons of this gentleman, according to information which I had received, might be suspected of any natural defects, such as those to which I have given the name of the temperaments; on the contrary, we may assume that they would be choleric like their father, only not strict towards subordinates with so appropriate a severity. We might imagine also that the sons would perhaps have a little more of what we call the sanguine temperament, without thus being obliged to think of my former interpretations of those words, which deviated from the ordinary usage of speech. My intention was to call this fact to mind, that in the series of faults through which education may suffer, and is wont to suffer very frequently, the consideration of unfavourable surroundings must follow

the mention of natural defects, wherein the most healthy natures often enough so entangle themselves, that excellent parents and able educators and teachers cannot in the end rejoice in their labour. Your experiences will have told you, just as mine have told me, that even where riches do not lead to luxury, or high station to flattery, healthy children, nevertheless, grow up with the evidences of being pampered and spoilt; perhaps only for this reason, that in the lap of fortune, with wants satisfied and the future void of care, they receive no sufficient impulse to earnest work. The northern plant is then to its loss born in the south. In cases of this kind I wonder whether the severity of our present gymnasiums, with their terrible final examination, afford any real help? Superficial observers will rashly answer in the affirmative, and I feel inclined to admit that at least an important mitigation of the evil is obtained through this assistance, transitory though it is, and by no means thorough. With real pity we shall here bear in mind the counterpart of such a case; that is, the southern plants which wither, because they are born in a northern clime. But this is too familiar for us to linger over it here, for *we* cannot help it. Moreover, I only wished to remind you of these unfavourable surroundings and not detain you over them; rather do I wish to reserve your patience for subjects, the examination of which will cost us more trouble.

Letter IX.

Bearing of the preceding considerations on psychical matters—Such psychical differences as are indicated by the terms "southern and northern natures," and which appear even in children, seem to hint at the existence of soul faculties—Cases of children who show remarkable memory, understanding, feeling, will, etc. : (1) Theoretical defect in the faculty doctrine—When certain faculties are supposed to exist, the peculiar function ascribed to them is not always present as their effect; (2) Its practical uselessness—Its supporters state facts already well known concerning mental differences, but bring forward no explanation of them—Their investigations concerning lunacy are premature as regards education, since so much is still to be done in examination of the normal type—Herbart has more sympathy with the theological inquiry into the origin of evil than with the extreme Libertarian position.

YOUR thoughts will anticipate mine, and it seems to me that I already hear you ask: "How can there be southern and northern natures?" How could there be indeed unfavourable external surroundings if it were not an evidence to us of internal difference? Relationships are always guides to the actual condition of the things related,[1] and if here, the son of the workman would thrive better in the lap of wealth, and there, on the other hand, one would wish for the young count

[1] That is, the very fact of the want of harmony between certain individuals and their environment, or the evidently defective relationship maintained between the two, whereby the worst developments seem to arise, is an evidence that the individuals in question must differ from each other. We may compare with this the following

that he had been born a farmer's son, the reason for it must lie finally in a difference, which, if the education is not to blame, we can only seek in natural disposition. This consideration leads us next into the sphere of empirical psychology, since we now set on one side such differences as were before connected with the physiological concepts of Sensibility, Irritability, and Vegetation.

Not only from hearsay, but from the personal observation of years and from educational experience,

extract from CHARLES UFER's *Introduction to Herbart*, translated by ZINSER:—

"It follows that two pupils with exactly the same educational influences would develop absolutely alike, provided that—

"(1) Their bodily constitutions were completely identical.

"(2) Their acquired capabilities were the same.

"(3) The hidden and uncontrollable influences which assist in education were in their minutest details identical as to quality and degree. But as these two factors never entirely agree, children of the same environment must develop differently. The educator cannot make of his pupil what he will; he cannot form him entirely according to his mind (as Helvetius, not Herbart, claims), for the inherent and acquired powers, together called individuality, resist his influence when he has reached a certain limit; there are in addition to this all manner of influences that hinder the teacher and cross his plans, so that the pupil does not even become entirely known to him."

While strongly opposing the doctrine that the soul could be divided into a number of Faculties, Herbart held equally strong views as to the reality and great importance of Individuality. None know better than he, that, whatever our theories, we shall have, sooner or later, to reckon with "southern or northern natures," and fortunate is the teacher "if individuality in no way combats his efforts, or by giving them a crooked direction, causes something different to be developed, which neither teacher nor pupil would desire. The latter fate almost always befalls those who have had no experience in dealing with men, and therefore are ignorant of the way in which to treat in the boy, the already existent man." (*The Science of Education*, p. 113.)

I am aware of differences, which become clearly prominent even in boyhood, and which afford the strongest support to the doctrine, as widespread as it is mistaken, of the soul faculties. On the one hand, a special facility in voluntary remembering or learning by heart is often prominent, which we usually ascribe to the memory, although it is a very different thing to the involuntary retention of events and words. On the other, although much more rarely, there is an early disposition to linger over abstract propositions and concepts, (to inquire about grammatical rules for example), on account of which the understanding is praised, although this talent is very far removed from cleverness, cunning, caution, or discretion. Or again, a remarkably religious temper appears in children, whereby religious instruction obtains a value, and makes an impression which we seek in vain with the majority; then moral reason is commended, although honesty, love of truth, and sense of justice, though readily uniting with it, are also often to be noticed among those whose thoughts do not yet rise beyond this world. We see great strength of will sometimes, though but rarely in boyhood. I have found it, however, in very different characters; always, indeed, with traces of that which is commonly blamed as wilfulness, and generally connected with a certain reserve, which would not give way immediately or to anyone. The qualities accompanying it, however, were very different; in the one case there was intrinsic honesty, and in the other craft. Meanwhile, in this we must notice that the whole difference, if I accurately recall the experience, might be traced back with

great probability to early impressions of environment in quite childish years; so that this disposition, although greatly requiring careful education, may still be reckoned among excellent ones, if only it is not bound up, (which may also happen), with a Bœotian insensibility to every kind of instruction, for in this case it scarcely permits the teacher to reach it. In contrast to such appear the so-called keen intellects, which grasp everything quickly, but do not retain it firmly; pupils who chat pleasantly on a subject, but think little about it; seek to seize upon enjoyment where they can find it, and therefore try even to accommodate themselves to instruction during lessons, in order to spend the time with as little unpleasantness as possible. They submit to exhortations, as for the present inevitable; if obliged to listen now to praise and now to blame, in their thoughts the praise grows fantastically great, and the blame diminishes, because after all there is no true interest and no true will in them; feeling rules, even the feeling of the moment, and they have no serious purpose to set up opposition to it. Every teacher who looks back at his own circle of experience will in this way find many things to think about in the words memory, understanding, reason, will, emotion; and if he is satisfied with superficial reflection he will believe that the assumption of soul faculties is now verified by most undeniable facts. But if he attempts to invert the argument, another and a serious aspect will appear; for when proceeding from these soul faculties, as the supposed actual causes of the differences in experience, he will nowhere

obtain definite explanations. When memory, understanding, reason are present, then everything which is ascribed to these faculties as their peculiar function ought to appear as their action and effect. And it sounds quite right and even impressive, if the teacher speaks somewhat thus to the young man, who has repeated his part in little comedies: "Do you see, my friend, what a good memory you seem to have? Why, then, do you not remember words and grammar? Why are you always behindhand in chronology and even in geography?" The youth will not know how to answer, but if the teacher so speaks in sober earnest and does not see any deeper than that, he is to be pitied. Such words as these would be utterly ridiculous: "You evidently have feeling, for you give yourself up to the pleasures of leaping and shouting; you are sensitive to reproof, and you act as if you already possessed a kind of honour which ought not to be impugned. Why, then, have you so little sense of duty?" The pupil thus addressed would certainly have difficulty in guessing, how anyone could manage to put into one class a sense of duty and the momentary feeling of pleasure and pain; and then, on the ground that he had the one, demand from him also the other.

In books and papers you may daily notice, my good friend, the behaviour of those whose attention we would call to the theoretical deficiency, and, (most important of all), the practically useless and misleading nature of the doctrine of the soul faculties. First, the separate faculties are lightly brought before us, as if no empirical cause existed why we should

believe in them. "We have already known a long time" (they say) "that all the faculties together are, after all, only one power of the mind." To this we would answer, that with such an evasion, the undeniable difference in minds becomes still more incomprehensible, and the metaphysical error in the idea of the so-called one power, which is to be equal to many faculties, becomes still worse than before; so we begin to hear different words: "Do not mention metaphysics; who would trouble himself about metaphysics? Who would indeed study mathematics for the sake of psychology? We boast of our experience. You must leave us our experience." So people talk whose experience has been collected in the study. Now they teach everyone in the name of empirical psychology that which he already knows, and which, perhaps, if he did not know, would be, as far as he is concerned, incomprehensible. But it becomes clear that such teaching and learning end by being exceedingly wearisome; then they stray into the lunatic asylums, and make believe that psychology is a medical science. Let us leave that alone. Our educational sphere of experience is too precious for us to be inclined to exchange it for the hundred-fold repeated stories of madness and delirium, always similar to each other, and that for very good reasons; but the chief point is, that practical necessity forces upon us the care of a youth, which is not yet at an age when madness and delirium are even possible. And fortunately for the welfare of mankind, we have no cause to believe that some form of madness, or of any mental decay lurks in the majority of the pupils

who cause us anxiety. Only would that scrofula, fever, and fits lay equally far off! As long as even scrofulous subjects and those afflicted with infantile fits come into our sphere only as exceptions, how little are we called upon to trouble ourselves about possible insanity in the future. How lucky we should be if the course of investigation had, in our case, gone on to the exceptions, instead of even the most ordinary things making us feel our great lack of knowledge, and the difficulty of really necessary investigations! After all, as far as theologians are concerned, on whose hearts lies heavy the question as to the origin of evil, you know, my dear friend, that I agree with them most decidedly as to the gravity of the question, and I also find their conversation incomparably more appropriate to the matter in hand, than the ever-repeated talk of the opposite party about freedom, words which, from an educational point of view, mean nothing but absolute ignorance, which is too obstinate to wish to learn anything; but, unfortunately, there is no hope at all of obtaining from these theologians any useful explanation about that which we have to do. Let such pupils, as can be reached by theological remedies, accept them, if suitable precautions are taken against the pharisaic pride of those who call themselves pre-eminently good. We know only too well that the number of those who cannot be reached in this way is far greater, and will always remain so.[1]

[1] See Introduction, pp. xliv.-xlvii.

SECTION B.

PHYSIOLOGICAL-PSYCHOLOGICAL DIFFERENCES.

LETTER X.

Co-operation of the physical and psychical in emotion—Quick alternations of laughter and tears in children—Reaction of the body on the mind—Difference between children and adults in this respect, due to the greater independence in the different organs of the latter—Educational importance of this, since deviation in any one point may prove injurious to the child's whole inner world—Great importance of the emotions: their effects,—stammering, facial contortions, etc.—Variable dispositions in children through different surroundings, and at different ages—Frequent repetitions of earlier stages, *e.g.*, the wild youth returns to the nobler aims of boyhood; the child, now receiving careful education, shows perversity, previously developed—Effect of a good education in delaying the development of many emotions, opposing inner tumult, and hastening the attainment of inner freedom of the will.

HOW would it be, my friend, if we agreed to retrace our steps for a while? Truth to tell, I have dwelt on psychology in the immediately preceding pages, at an earlier point than we seem to have reached for serious investigation in this province. It was my purpose to give an introductory review of the points which must be called in question; but the consciousness of present difficulties throws us back upon the physiological considerations before touched on; for those very differences of temperament, which, for the superficial observer, bring to light quite prominently now

this, and now that isolated mind faculty, are those which cannot at all be explained by pure psychology; they belong not to the mind, not to the presentations, not to the series which shape themselves therefrom, nor to their higher products and methods of action, but to the bodily conditions to which the soul is subjected in this or that individual. Much indeed is considered psychological, which is really physiological, and such an error easily leads one afterwards to consider purely mental life as physical.

But I have obtained no better explanation from physiologists of the subjects really lying on the border-land between psychology and physiology, than from those who call themselves psychologists. Rather am I here left far more than I like to my own experiments. Be content with the few which I venture to offer.

When I paused at the subject of temperaments we had already touched slightly on the emotions, and you must have found the mention of them too cursory. You could not indeed have missed here the proper psychological concept of them, viz., deviation of the presentations from equilibrium, for that is an abstraction, and the completely developed phenomenon of the emotion, as we perceive it in children, embraces much more. Children laugh and cry, and thereby capillaries and muscles are visibly excited; indeed, often with them the sun shines out again while it is still raining; and at another time laughing does not by any means cease, though our threat has already called forth fear. In short, the emotion is evidently not merely psychical but also physical, only the two

phenomena are not entirely and precisely simultaneous. Rather is the comparison with the sea appropriate here, which, gradually roused by the storm, goes on raging for a while, and makes the nearest stratum of air restless, when the atmosphere as a whole is already still. So the body is at first strongly affected by the mind; but then in the former the agitation continues, and in its turn will not allow the mind to immediately regain its natural state and activity. Again, do we not know from our own experience, that when once anger has obtained the mastery, the solitary corner is our best refuge where the storm may wear itself out? In cases when we cannot do this, longer and sometimes serious suffering threatens the health.

Now listen to my hypothesis. The relationship just mentioned might easily appear and repeat itself, not merely between mind and body generally, but, to define it more accurately, first in the interchange of activity between the mind and the nerves, then between the different parts of the nervous system,—brain, spinal cord, ganglia,—further, between these and the vascular system, together with the blood and the other humours, and finally, between the humours and vegetation with its manifold organs.

It can indeed scarcely be otherwise, for every force, which works for a time, accelerates in the physical world the existing motion, and at the moment when the acceleration ceases, the generated motion does not, as we might assume, cease; but, on the contrary, at that very moment reaches its maximum, from which

it is only gradually reduced by means of the existing hindrances.

But very great differences may appear in the rhythm of such events, according as the members of a connected whole are more or less excitable as regards each other. The man does not laugh so easily as the child; he weeps seldom or not at all. His perfect health demands that the different systems and organs should approach an independence, which is not to be thought of either with children or with women. This is particularly manifested in the fearlessness of the warrior, which is lost as soon as the thought of danger can work through the nerves or the blood system. With children, on the other hand, all the parts of the organism share in each other's activities; every stimulus affects the whole. This is the reason why they should have no wine or anything exciting. Hence, too, they do not require nearly such strong medicine as men. They should not have to suffer from any long want of nourishment or any long periods of wakefulness, but frequent sleep after great activity in the day. These are only familiar things, but they all remind us, how with a child, everything stands in some connection, everything is affected by everything else, and the slightest deviations in any one point must, in the course of time, prove injurious to the right construction of the whole.

Let us remember how everything is rooted in the emotions. Stammering originates in embarrassment; the strangest contortions of the face may be tried in the play of fancy, and later on they remain as

a habit; absurd expressions of flattery are lovingly put together, and are repeated in moments of the most devoted affection; beside these there are rough invectives and formulæ of protestation, even hackneyed puns and word-play,—in short, a host of things which annoy governesses and private tutors still more than real educators, for the simple reason that they do not always deal with the cause of the emotion, but wage war with its expression in order to preserve decorum. The true educator is, on the other hand, at least not quite without resources, which enable him so to penetrate into the mind, that the foolish whims cannot easily reign for whole days and hours together,—the common sign of ill-breeding among low, disreputable people when they are alone, or do not find it necessary to control themselves.

We know how very wise and careful mothers are on their guard against allowing their children to be long out of their sight. We know also that they are right. Our own experience tells us that even in later boyhood, we find pupils peevish and absent-minded, if not rough and spoilt, when they have been a week away from us. Our eyes and ears show us, that those, who in our society enjoy orderly, happy activity, very soon plunge into wild excitement in which they do not even know themselves, or sink into indolence from which they know not how to escape, if they remain too long without supervision. "In that house," people often say to us, "the boy is not the same as he is here." We know also, it is true, that youths who for a time have led a wild life are wont to return to a better mind, and

then to come back to their own higher resolutions, but as a rule only in those cases when something better has gone before of which they can bethink themselves; somewhat like depraved nations, who, if they rise again to anything nobler, seek for support in historical memories, but know not how to save themselves, if these, unhappily often broken reeds, are not strong enough to bear them. Finally, we know also to what a serious extent perversity will reappear, if developed in children before the beginning of a careful education.

What, then, is this perversity? Presentations, no doubt, but not merely presentations. Such, according to the laws of the psychological mechanism, would admit of being driven out by other presentations. Besides this, the same objects are presented to many at the same time, the same examples stand before many eyes, and the opportunity of taking advantage of them is often exactly the same for several brothers of nearly the same age: still they act differently. Under such circumstances feelings and longings would also be the same, in so far as they arose in and out of the presentation masses, if some strong reason for difference had not been present. The reason attaches to the individual: it lies in his organism. With the latter it varies sometimes in the course of years,—the youth laughs where the boy wept, the man remains cold where the youth was touched. Yet for the most part we may still recognize the boy in the man.

A system of emotions is bestowed with the organism which is possible in it. The course of years affords opportunities for the *possible* emotions to become *real*

ones.[1] Good education delays the development of the greater number. Riper age lessens, especially in the male sex, these original possibilities, because the different organic systems attain greater independence. If now thorough mental culture is added, the circle of thought lends its opposition to the inner tumult, and that is attained which, in a narrower moral sense, we call freedom of the Will. If that is lacking, a Will indeed makes its appearance, but only that which has its seat in the circle of the earlier roused emotions.

[1] That is, the course of Time brings opportunities for awakening the dormant emotions.

"The emotions are states of mind in which the presentations are considerably removed from a state of equilibrium; the stirring (*rüstig*) emotions bring a greater amount of presentation power into consciousness than can exist there, whereas the melting emotions (*i.e.* paralyzing to activity) force a larger amount out of consciousness than ought to be thus expelled, considering the nature of the existing presentations. . . .

"Hence it follows that all emotions are so transitory. The mental states must again approach equilibrium, in accordance with the commonest laws of the psychological mechanism, as soon as the intensity of the presentations becomes sufficiently strong to overcome the causes arousing the emotion.

"Further, this explains the physical fatigue caused by all emotions, as soon generally as a connection is set up between the mental states and the organism. For we must consider the force, which, on the one hand, is exercised by an abnormally increased sum of arrest (in the case of the stirring emotions); and, on the other, by a number of presentations which are on, or near to, the mechanical threshold (in the case of the melting emotions); the labour, which is imposed on the organism in its accompanying movements, depends no doubt on the then increased rapidity in the change of the mental states. . .

"As regards Feeling, it does not matter about the number of presentations in consciousness, but rather on the pressure which the opposing forces exercise on each other; whereas in emotion the number is very important as bearing on the state of equilibrium. Therefore it is erroneous to say that the emotions are stronger feelings, since the two are to be measured by a different standard."—From HERBART'S *Psychology as a Science*.

LETTER XI.

The fallacy of tracing back the Emotions to the Feelings, or of asserting that the Emotions are nothing more than stronger feelings—Justification of a former statement—"Emotions make feeling dull"; for example, a man feels the beauty of, and clearly distinguishes the difference between, the Moral ideas; the emotion is aroused of self-praise or self-blame, physical effects begin, nerve and blood are excited, and the feeling becomes scarcely distinguishable from that roused by good or bad news; hence when tears fall in showers the cause of weeping may be forgotten.

A good education by delaying the development of many emotions tends to preserve the fineness of the feelings—Injurious effect of arousing a new set of emotions, for the sake of opposing those already present.

It is a strange thing to write letters to which we get no answer, and more inconvenient than I first thought. True, my friend, I shall certainly receive your answer some time; but I should like to know now what you say to the foregoing remarks. If you were merely a pedagogue I would go on writing boldly, but you are at the same time a zealous friend to Psychology; and you have often enough expressed the wish that I would myself answer many things which have been said against my Psychology, whilst my opinion is that you could undertake that in many respects with more success than I. It even now occurs to me that many could not reconcile themselves to my distinction between emotions and feelings. I

could almost entrust it to you to defend me in this matter, but I fear you will accuse me of having made it still more difficult, just through the foregoing remarks. What is there said of the emotions will by some be interpreted of the feelings, and since it manifestly also holds good of the emotions, we shall for that very reason be reminded by others of the old proposition: "Emotions are nothing more than stronger feelings."[1] Is this not true?

Do not hope now that I am about to withdraw my request. Just in such matters, which do not exactly

[1] Herbart's use of the words emotion and feeling requires explanation. Ufer writes thus:

"Presentations are the primary states or conditions of the soul, and can in turn have their own (secondary) conditions. The latter divide into two groups, viz., the feelings and the desires. . . .

"A mother has promised to take her two children to the fair. Long in advance they picture to themselves, upon the basis of previously acquired ideas, all the glories that await them. The looked-for day arrives; they think of nothing else, forget eating and drinking, always busy with those concepts that have reference to the fair, while all others have sunk. Shortly before the appointed hour one of the children is naughty, and his mother says, 'Now you must stay at home.' Then arises a severe struggle within the child. Those ideas that have previously been rising are so lively that they cannot at once sink below the threshold of consciousness (be forgotten), while new ideas not at all reconcilable with the former, (prohibition), appear with full force. Thus the rising of concepts is arrested, and the result of check is a feeling of pain, which relieves itself by weeping. Now the sister intercedes for the offender, and the mother says, 'For this once I will let it pass; come, let me dress you.' Now the previously arrested concepts fly up into consciousness, as if by a suddenly released spring, because arrest has disappeared, and the child laughs out, while the tears still stand in his eyes. A feeling is therefore the becoming aware of an arrest or promotion of those ideas, which at the time predominate in consciousness. Arrest produces a feeling of pain; promotion a feeling of pleasure. If feelings

call for calculation, I depend upon you and your logic. If you will help me out with it, it is well; if you will not, that is as much as to say you do not consider it necessary, and then for aught I care, too, each man can keep his own opinion. For really I do not at all see that I am bound to correct the opinions of others, when I have already long ago offered for public use the scientific means of assistance which I am wont to make use of myself.

Meanwhile, although I do not at all wish to interpolate here a chapter on Psychology, I find a proposition amongst my papers which I had really destined for another place, but which may reasonably serve here, too, to remove every appearance of confusion from my former letters. The sentence reads thus: "Emotions make feeling dull."[1]

of pain and pleasure follow each other so rapidly that they cannot be kept apart we speak of mixed feelings, fluctuations of feeling. . . .

"Feelings are distinguished from sensations in that the former bring into our consciousness conditions of the soul, the latter conditions of the body; again, sensations are primary, feelings, secondary soul-states. Feeling is not a separate, independent faculty of the soul, but only a consequence of the mutual interaction of ideas."—*Introduction to Herbart*, by C. UFER, translated by J. C. ZINSER, pp. 26, 27.

[1] "Emotion dulls feeling." For the *raison d'être* of the tears or laughter is lost as soon as the physical emotion, which is the same whatever be its cause, gets the upper hand. Hence the child forgets the cause of his tears as soon as the occasion for weeping is past.—*Aphorisms on Psychology.*

"After the emotions, (transitory variations from the condition of equanimity), have been separated from the passions (rooted desires), a prevailing opinion has arisen that the emotions are nothing but stronger feelings. But there are very strong enduring feelings which have grown into the deepest recesses in the foundation of human character (*e.g.*, adherence to our own people and to the fatherland),

For you, my dear friend, the proposition is no riddle. You know as accurately as I do myself the different moral ideas. What has kept the distinctions between these ideas so long hidden? The similarity of the emotion which arises, when, after any of the ideas,—no matter which,—each man praises or blames himself. An evil conscience gives pain, and in this pain we do not notice its origin, any more than one who feels a sting notices whether a thorn or a needle pricked him. Therefore I assert that the feeling has become dulled. But was it then originally just as dull? If we think of the idea of Benevolence we feel its beauty; if instead of this, we form a conception of the idea of Right we feel its rigour. Now are these two feelings of the same kind? Certainly not. Only when they mingle

with which the most complete equanimity exists, so long as nothing of an opposite nature which may disturb them appears. The moment of danger to one's own, or to the fatherland, may arouse emotion, but this emotion is widely different from feeling itself. In the same way a man may possess a strong and lasting feeling of honour without being in a condition of emotion from it. . . .

"Variations from equanimity may occur from two causes—either there is too much or too little present in consciousness. To the latter class belong mental shock, sadness, fear; to the former, joy and anger. The emotions are not merely a psychological but also a physiological subject, for they act upon the body with remarkable, often dangerous power, and by this means, in reverse order, make the mind dependent upon the body, partly from the continuance of the bodily condition, (which does not cease so quickly as would the mental state by itself), partly from the tendency of the body to yield to emotion. Thus courage and timidity are very often dependent upon health and sickness. It is a remarkable circumstance that different bodily conditions belong to different emotions. For example, shame drives the blood to the cheeks, fear makes one pale, anger and despair increase the strength of the muscles, etc."—HERBART, *A Text-book in Psychology.*

with the feeling of self-praise or blame, which is by no means necessarily connected, do their distinct characteristics generally begin to disappear; but when the emotion comes in, when the man becomes hot and cold in self-examination, then nerve and blood are excited, and what he now feels, he scarcely distinguishes from the warmth or chill aroused through joyful or sad news. Hence Eudæmonism might even be confused with Morality; discrimination of the very foundations of all Morality would then be completely out of the question.[1]

Do you wish me to spend any more words over such things?

It is better for us to apply the proposition educationally. Previously we noticed that it was the benefit conferred by good education to delay the development of many emotions. This appears in a new light if we add to it that the feelings run a risk of being neither ennobled, distinguished, nor purified through the emotions, but of being drawn down into the common mass. You, as æsthetic critic, certainly do not approve of the so-called play of emotion, and why not? I suppose for the reason that when tears fall in showers, very soon nobody remembers the cause of the weeping; much as in the quarrels of the philo-

[1] Eudæmonism is that system of Ethics which takes Pleasure as the ultimate end of all truly rational action. Since Herbart bases all Morality on the *Æsthetic* judgments, he would naturally regard as disastrous, any doctrine which confuses the emotions of pleasure and pain which may accompany those judgments, with the actual intuitions themselves as to the Right and the Beautiful.—See Introduction, pp. xxxvi., xxxviii.

sophical schools when the questions at issue are set on one side and gradually forgotten.[1] Would you approve any the more of the educational play of emotion? In this way, I think, the mistaken idea is already opportunely corrected, that it might be expedient to struggle with emotions by setting up others of an opposed kind;[2] however certain conditions might alter the case. Still it is not necessary to say anything about it here.

[1] The fault of the schoolmen was that in their keen interest in the *means* for the attainment of truth the *end* of the dialectic was forgotten, as Bacon says of them: "The wit and mind of man, if it work upon matter, which is the contemplation of the creatures of God, worketh according to the stuff, and is limited thereby; but if it work upon itself, as the spider worketh his web, then it is endless, and brings forth indeed cobwebs of learning, admirable for the fineness of thread and work, but of no substance or profit."

[2] Because emotion of any kind produces physical effects, which lessen the possibility of discriminating between the different kinds of feeling.

LETTER XII.

Anger and fear in animals physiologically and psychologically considered—The dog, at the sight of an unfamiliar object in his own home, is angry and barks; the cat is frightened and runs away—Fear drives the blood inward, anger outward—Objection to the physiological statement that when the blood is suffered to rush inward there is fear, and when the heart can resist the pressure, anger arises;—the dog, away from familiar surroundings, often shows fear, *i.e.*, the emotion is governed by the presentations—Reason for these phenomena: When the existing presentations are repulsed the life-energy dwindles, and the blood flows into the large capillaries; then the disturbed organism re-acts on the mind, fear is there before anger can develop; since the dog's vascular system is more independent than the cat's, it re-acts better against the first shock—Observation of the first emotions in children—Importance of the independent action of the brain and capillary system.

SINCE we are still standing on the boundary between physiology and psychology, it is a fitting place to glance at animals and to observe the special differences in the first emotion, manifested by our two most ordinary domestic animals, when anything new comes into their accustomed sphere. The cat is frightened and runs away, the dog is angry and barks. But after a little while this distinction disappears,—they only betray their curiosity, the one at a distance, the other near and boldly.

Generally speaking, to be sure, fear of human beings rules in all animals, in so far as they are not excited

either by injury or hunger. Even the dog is known to become frightened as soon as he finds himself outside the precincts which he regards as his own, especially in the midst of many strangers. Thus the anger which he displays so clearly to the new comer, on his own ground, is the exception; fear is the rule. Since, however, the exception is common to the whole race of dogs, it must be founded in the organism of the species.

Both emotions show the connection between nerves and capillaries. Fear drives the blood inward, anger outward.

What would you think if we inverted the statement and said thus: When the blood is suffered to rush inward there is fear, but when the heart is powerful enough to resist the pressure anger arises? Would that perhaps be more correct? At least it would be so from the standpoint of the physiologists, who derive the mind from the body. But the dog whilst he wanders about at a distance from home takes his heart with him; only his *brave* heart remains in the house. He knows where he is, and the emotion is governed by this knowledge. Thus from the organism we cannot get the explanation, just as little as we could bring the matter to a conclusion without it. First, the dog is disturbed in his familiar circle of presentations, and it is this very circle which furnishes the first opposition against the unwelcome disturber, so long as the sight of present surroundings serves as a support (*i.e.*, if the dog is at home). Thus the Turgor vitalis also maintains itself—

it even increases and presses forward violently. But when the existing presentations allow themselves to be repulsed, then the life-energy also dwindles, and the blood runs away into the large capillaries, as into mere reservoirs, whilst its special use, that is, nourishment, is arrested. This holds good in the opposite case. If the capillary system is weak and not sufficiently independent, as in the case of the strongest man after loss of blood and humours, as in children, and often in women, then blood and nerves succumb to the first shock which the presentations receive and transmit. And now follows immediately the second act of the emotion; the disturbed organism re-acts, checking the mind; fear is already there before anger is able to develop. If now the largest cat will run sooner than the smallest dog, we shall undoubtedly conclude that the dog possesses more independence of the vascular system; consequently, he can endure and afterwards re-act better against the first shock, which his circle of presentations, and therefore also nerves and blood must suffer at the sight of the foreign object. In the cat the capillary system suffers, and also involves in this suffering the nerves and the circle of presentations. However, all cats do not run equally far, many an one turns round soon and looks expectant as if to see what will happen next, as a sign that even then the presentations are recovering their tension.

Fiat applicatio! It is of great importance to observe the first emotion of children at the appearance of a new object; but neither fear nor anger are welcome.

Brain and capillary system should, in the human race, depend on each other as little as possible.

Only let us not forget that anger does not arise in the dog until a purely psychical process has preceded it and sufficiently developed. He had first to get familiar with his own ground, his master, and his master's friends; indeed, he had to learn to actually shut off this circle first by itself that he might recognize strangers. Quite young dogs do not show anger, and very clever dogs, which after their fashion know the world, are less excited than the little ones which have not left the chimney corner far behind.

This letter I shall be obliged to send to you in manuscript, in order that those to whom psychology means the same as anthropology may not get to see it. In order, moreover, that those solemn pedagogues may not be shocked thereat, who are continually declaiming in lofty phrases about the dignity of mankind, whilst their pupils give them the slip. We will see; if I do not find it necessary to refer to what is said here I will take the letter out of this collection.[1]

[1] The discussion of Fear and Anger is continued on p. 107.

LETTER XIII.

Fear of the unknown in children—Differences in perception traced back to differences in emotion—Transition to the psychical side of the discussion—Physiological data now considered, especially as regards hindrances, which affect the psychical mechanism—Hitherto inadequate investigation of the connection between the different organs—The two periods of an emotion, (i.) acceleration of the one system through the other; (ii.) reaction of that which was accelerated; a consideration of this as regards sensibility, irritability, and vegetation leads to inferences respecting the great variety of the emotions—The more perfect the development of the organism, the less will be seen of emotion in the educational sphere—Hindrance to the psychical mechanism, sometimes even pain, produced by the reaction of the body against mental activity.

THE former letter may stand, but the application you will soon find out for yourself.

It cannot have escaped your notice that all children, boys and youths, are not alike in the way they receive any new object which presents itself. Rather are there many differences in this respect, in which we may notice traces of emotion, not violent indeed, but still of considerable influence. For the sake of clearness I might first refer here to the weeping of little children as soon as they are left alone, even for a short time in a strange place; or to the fear of being in the dark, which is felt even by some adults. Here you will immediately think of the arrest which the existing

force of the presentation must suffer, if the mind receives a general impression which is unfamiliar. We should ourselves feel a similar arrest, if in our travels we came into regions where everything looked different from what it did at home, though even world-wide travellers rarely, if ever, find places which do not, generally speaking, show, at least, some similarity to familiar objects. But such examples lie too far off our present consideration. It is more necessary to notice that the curiosity, which we generally see in children when anything new presents itself, is in no way common, and is least of all the first emotion which the strange object, as such, is apt to arouse.

Many a time timidity is noticeable when we hoped for curiosity; often aversion, when we wished to arouse attention. And not seldom the boy ignores that which we have set for him to observe as a thing which in no way concerns him, and about which it is not necessary that he should trouble himself. The response of the children may make instruction very easy in lesson-time, but because it is so often lacking we get commands, anger, and threatening. We seek to improve our method of teaching, and then we stumble over an earlier and similar difficulty. Instruction, we say, ought to be combined with the known in experience and environment; yes, if only the children fully profited by all their opportunities for experience. But response has been lacking for a long time; only the clever ones perceived and heard; the others let the things pass by them without noticing. You see, my dear friend, that details here lie hidden

which it must be of great interest to bring to light. The most trivial differences of the emotion, which, if it were magnified a hundred or thousand-fold, could only then be discernible enough to be called fear or anger, may succeed in spoiling the mental grasp on the one hand of designed instruction, and on the other of the commonest objects of experience. These emotions, when they occur, have no doubt physical causes; but it will be seen that even the rude indifference itself, which is more often noticeable, is to be explained physiologically.

We now approach a point from which we must return definitely to individual, psychological investigations. Physiology must thus retire into the background, that we may consider it under the quite general concept of a hindrance, which indeed seldom necessitates complete inaction, or absolutely cross action, of the psychological mechanism, (not to speak of sleep or insanity), but which all the same retards it and changes its rhythm. But in order to trace the manifold consequences which may arise therefrom, it is necessary to have before our eyes the psychical processes themselves; for in them is found that diversity and variety, the character of which is changed by means of the hindrance. The immediately preceding pages already introduced this discussion. Before I explain it further, I must notice the gap which unavoidably remains.

The connection of the different parts of the brain with each other, with the spinal cord, and the sympathetic nerve system; further, the connection

between all of these and the capillaries; and, lastly, the connection of vegetation with sensibility and irritability has, up to this time, been investigated far too little by physiologists for the variety of the emotions according to their real causes to be clear. But the general concept of emotion, already mentioned above, according to which it always breaks into two periods,—first, the acceleration of the one system through the other, and, second, the reaction of that which was accelerated, whereby that which before caused the acceleration now becomes passive,—this conception, I say, applied to the different organs which belong to sensibility, irritability, and vegetation, leads one to expect that the variety of the emotions must be extraordinarily great. On the other hand, the more perfectly the human, and especially the male organism develops, the less is to be seen of all these emotions in the sphere of educational observation, and this, too, as early as the later years of boyhood and the beginning of youth; hence we lose little if we cannot accurately distinguish the reactions of the liver, the lungs, the stomach, and so on. It matters little whence the hindrance comes which changes the rhythm of the psychological mechanism; only the effects which it produces, whereby it puts difficulties in the path of education, are of interest to us. Only one more remark by way of preface: it is that the reaction of the body against mental activity is not always limited to mere hindrance, but that sometimes positive physical suffering ensues. Study, then, produces pain; indeed, I have known

cases when it caused convulsions, which, by their frequent repetition, at last prohibited mental exertion. True, in other cases the pain is sometimes overcome; much more often valuable time is lost to education, until the nerves become sufficiently strong to serve the mind better.

SECTION C.

PSYCHOLOGICAL DIFFERENCES.

LETTER XIV.

Concept of a physiological hindrance—That it is not absolutely rigid, but that while hindering presentations, is also liable to be checked by them—Concept of free space: A presentation suddenly free from arrest, only gradually and according to a mathematically defined law fills the free space allotted to it—Example: (1) Let B=presentation now sleeping which is to be aroused—(2) (α) and (β)=presentations in consciousness—(3) A new presentation (c) enters, arresting (α) and (β), and rousing B—(4) A certain amount of B=(γ) awakes in time τ—(5) (γ) is proportionate in size to the free space X, obtained by B when the pressure of (α) and (β) ceased—(6) Suppose the existence of a physiological hindrance P, with which (α) and (β) have maintained a sort of equilibrium; as (α) and (β) decrease, P will increase, since it was not in equilibrium with B—(7) With the entrance of (c), (α) and (β) sink, but instead of (γ) becoming prominent P rises, lessening the representing power; all depends now on the equilibrium established between P and (α), (β), (c)—(8) If (c) is presented in continuous perception, it also will lose energy through the pressure P—If (c) turns out smaller through P, (α) and (β) will suffer less arrest, and the reproduction of B fares still worse; therefore the state of (α) and (β) in consciousness will suffer little change, except for the dulling of the mind by the growth of P—(9) If (c) represents a whole series of new perceptions, the same will be repeated; example of this in the teaching of sleepy or ill-humoured children.

DO you wish to turn immediately to the field of empirical psychology already touched upon (IX.), and review one after another the so-called faculties of

the soul? I think that allusion to the subject is quite sufficient to prevent at least our feeling the want of a brief sketch of all that concerns our discussion. You, my friend, would not thank me if I merely sketched out lines in a field of thought, wherein every detail requires close attention. Such logical arts have deceived people long enough with the empty appearance of knowledge; we leave it to those who are not disposed to earnest investigation. Let us rather make use of the preparatory work already accomplished. Let us leave higher things alone, until, as far as our present knowledge serves, we have investigated, on behalf of education, those lower things on which the higher depend. Let us accordingly put now on one side all that has reference to general concepts, judgment, language, reflection, co-operation of several presentation masses, and finally self-consciousness, for we cannot say anything definite, from an educational point of view, about any of these till the elementary points have been discussed.

You are doubtless expecting that I should bring under consideration the structure of the presentation series? Soon, but even this not immediately. There is something earlier to be considered which is connected with the last letter.

Not only the indirect reproduction whereon the construction of the series depends, but even that which is direct calls forth observations which we ought not to pass over.

First, I beg you to recall in psychology the concept of a physiological hindrance. You know that such,

at least in health, should not be thought of as rigid or incapable of any yielding, but that while it hinders the presentations, it is on the other hand liable to be checked by them. Otherwise sleep, the best known phenomenon which arises from such physiological hindrance, could never be overcome.[1] A great noise, however, strong light, or any powerful sense impression, is able to rouse us even from the deepest sleep. That is to say, it depends in such a case on the relation which exists between the energy of the representing power and the physiological check.

This being pre-supposed, let us, from the calculation concerning direct reproduction, consider specially the concept of free space. Suppose a presentation should be suddenly free from all arrest, then the free space would be as extensive as the whole hitherto arrested amount of this presentation; but, nevertheless, it would not suddenly change its arrested condition into one which is not arrested; rather would it only gradually approach the unchecked condition, accordingly to a mathematically-defined law, or as we might even express it, it would only gradually fill the free space allotted to it.

For the sake of clearness, I will now mention the single points which are of importance in direct reproduction; and that you may more easily compare it

[1] This is a reference to the important fact that mind can and frequently does triumph over the most serious physical hindrances. For example, fainting can in many cases be overcome by the exercise of self-control, and patriotism has borne many a soldier through physical suffering of a most paralyzing kind.

with the "Psychology," I will use the same terms here that I did there.[1] Thus—

1. There is an earlier presentation *B*, which at the present moment is to be again aroused. For we generally express it thus, as if the presentation were asleep; and, moreover, this analogy of sleep is quite correct; only with the further restriction, that when we sleep, all our presentations are arrested for physiological

[1] This somewhat difficult letter is fully illustrated and explained by Letter XV.; but a simple example may make the case here considered clearer.

1. Let *B* represent the concept of Mary Queen of Scots, which you desire to arouse in the minds of some children by means of the similar presentation (*c*), which in this case represents the question, Who was Elizabeth's great Scotch rival?

2. Let (α) and (β) represent the irrelevant thoughts at present in the minds of the children; in this case, suppose (α) to stand for the gay dress of a particular child and, (β) a noisy wind outside.

3. The words, "Elizabeth's rival," arrest the irrelevant thoughts, and so leave free space for the concept "Mary Queen of Scots" to rise.

4. Parts of this concept (γ), in time (τ), gradually come into consciousness. (For example, Mary's name, her beauty, her ability, etc.)

5. This concept proceeds to fill the free space (*X*) left by the withdrawal of the irrelevant thoughts.

6. Suppose now the presence of a physiological hindrance *P*, *i.e.*, in this case the children are already weary through a previous lesson having been continued too long. Their weariness had been in a state of equilibrium with the irrelevant thoughts, but not with the concept of Mary Queen of Scots, which had been asleep.

7. When (*c*) enters, *i.e.*, when the words are uttered, "Elizabeth's rival," the irrelevant thoughts are arrested, but the children become again conscious of their own weariness, which had been to some extent checked by (α) and (β), and the representing power is dulled.

8. The reproducing presentation (*c*) (Elizabeth's rival) also suffers from the physiological hindrance, therefore the irrelevant thoughts undergo less arrest. The mental state changes but little, *i.e.*, the children are listless, and fail to attend.

reasons, but if we are perfectly awake, the cause why the presentation *B* sleeps, is not any hindrance, which can be explained on physiological grounds, but simply the pressure of other presentations.

2. Whilst it sleeps some other presentations must be awake, or, which comes to the same thing, must be present in consciousness, the pressure of which must also be the cause why the former, and with it also countless others, sleep. Let (α) and (β) denote the presentations now awake, although there may be a number of them. As a dramatic poet, if he requires a character which belongs to an indefinite number of persons, often allows such to be represented by two individuals, so here two presentations appear in the discussion as (α) and (β), because these are sufficient to discover the general laws which we require to begin with.

3. So long now as (α) and (β) are awake *B* must sleep. Consequently, on the other hand, in order that *B* may be aroused (α) and (β) must be arrested. This happens most simply and easily, if a new presentation enters by perception or sense impression, which works against (α) and (β), but not at the same time against *B;* for in the latter case *B* also, so far as it encountered this opposition, would obtain no free space. So, briefly, we assume: a new presentation (*c*) is given, which (*c*), however, is similar to *B;* so that if *B* were the sensation of sweetness, then would (*c*) also be sweetness; but if *B* were green, then (*c*) would be green. Or, if you would rather, let *B* be the presentation of a well-known person; if the

latter, of whom we were not just then thinking, met us, then the new observation of this person would be the above-mentioned (c).

4. Now awakes the analogous presentation B. But not wholly or completely. Only a certain amount (γ), which is a part of B, (or what may be for the present considered as such, although it is really a stage in the presentation), becomes prominent in the time τ, so that with more time, if τ increases, (γ) also will increase.

5. This (γ) adjusts itself as regards the size, which it has at any moment, very much in accordance with the free space, which was granted to B. And what is this free space already referred to, which is now to be more accurately defined? Nothing but the possibility that B will be able to raise, and, as it were, recover itself, just in so far as the pressure from (α) and (β) ceases. Now call the free space X. This X is just as great as the free space taken from (α) and (β) by (c), and pressed out of consciousness by it. To be sure you have read it all, my dear friend, in my psychology in a dozen lines; therefore pardon my diffuseness, which is not intended for you, and yet may some time be useful. I am sure you understand what I mean!

6. Up to this there has been no mention of physiological hindrance. Now we will introduce such an one and call it P. The above-mentioned hypothesis now holds good of this pressure P. That is, whatever may be the origin of this pressure, immediately in the nerves, and earlier perhaps in the blood, or in vegetation,—action and counter-action must already have taken place between body and mind, and even a sort of equilibrium between the two, if not fully present, is yet so far set up as to be sure to make its appearance. Thus the pressure P will become greater if (α) and (β) are smaller; or if (α) and (β) become greater, then P becomes smaller. For you will remember that by (α) and (β) we designated that force of representation which is just now, either wholly or in part, present in consciousness. With this the physical condition has placed, or ought to have placed, itself in equilibrium; though not perhaps with B, which was asleep or was on the statical threshold.

7. What happens then when (c) comes in as well? (α) and (β) suffer from it: they sink in consciousness. The power which worked against P is weakened. Thus instead of the result being that (γ) should come into prominence, while B obtains free space, P rises, which betokens generally a lessening of the representing power. It is now no longer true that the free space for B is as great as that caused by the subsidence of (α) and (β) collectively; but it still depends on what sort of equilibrium P will enter into with (α), (β), and (c) taken together.

8. But if, as is usually the case, the presentation (c) is not presented once for all, but in continuous perception, it will itself lose energy through the pressure P. For every presentation which arises from progressive feeling, or perceiving, loses something continuously through the arrest to which it is subjected from the beginning. The consequences which follow therefrom

are evident. Through (c), (α) and (β) were to be arrested, and through this arrest free space was to be procured for B. Now if (c) turns out smaller through the pressure P, then (α) and (β) suffer less arrest. That is a new reason why the reproduction of B fares worse. And since the former mental state depended on (α) and (β) being in consciousness, this state will now undergo but little change: it remains much as of old, and the most noticeable difference consists in the dulling of the mind, which we have before explained by the growth of P.

9. If now a whole series of new perceptions is furnished, be it through instruction, or through experience and environment, there is always a repetition of what has been just described. The dulling of the mind increases; reproduction fares badly; the old dream is still dreamed, or but little disturbed. Do you not at once recognize in this what has very often happened to you and me, with sleepy, wearied, or, for some cause or other, ill-humoured children?

LETTER XV.

Application to Instruction—Let (c) be the new instruction; B the supply of previous knowledge with which it is to be connected (*i.e.*, the apperceiving factor); (α) and (β) the pupil's irrelevant thoughts —Let P be the pressure on some presentations connected with a certain definite emotion—Application of this (i.) to the difficulty of changing an occupation to which a pupil has become accustomed; (ii.) to the re-appearance of discontent when a burdensome study has been altered; (iii.) to the dissatisfaction of a nation which has overthrown an oppressive government; (iv.) to any remedy which fails to touch a complex evil; (v.) to diseased physical conditions, since comparative health is an equilibrium of many kinds of evils—The case of a youth of bad propensities; the difficulty of correcting them—Defects in the older educational works (*e.g.*, Campe's writings), due in many cases to the holding of the theory of soul faculties.

NOW for certain addenda. It will be no trouble to you to substitute your instruction for the above-mentioned (c), the supply of earlier knowledge, with which it is to be connected, for B, and the irrelevant thoughts in the minds of the pupils for (α) and (β), which will appear every now and then, as soon as instruction makes a pause, and which we nearly always find with children, at least at the beginning of lessons. But is this P always a general negation to the process of presentation? That is a question, and by a change in this, the signification of P may be made still wider.

Let P now be a partial pressure, not on all presen-

tations generally, but on such masses of presentations as are calculated to arouse a certain definite emotion. You have before you, for instance, a pupil who learns grammar with painstaking diligence. His disinclination has already placed itself in equilibrium with this occupation, which carries with it its own peculiar emotion. You wish now to enliven him with history or poetry; you seek to arouse his interest in these new subjects by choosing out and presenting them in a manner, as far as possible, adapted to his life, his associations, and his own experience. What happens? Since you remove him for the present from his accustomed occupation, apathy arises,—just that uncomfortable feeling which hitherto was generally held in check by his diligence over grammar. The gentle tones which you use fail to appeal to him; no response greets you from his inner world, and at last it is found that grammar has a stronger hold than you thought. Pursued indeed without love, it is still found endurable. On the other hand, what you offer wins neither thanks nor success.

Shall we invert the example? Someone has learnt history without the goodwill of the Muses; now he is told to put the history on one side. Grammar is set for the study hours, which before were devoted to history. We think a burden is removed; but the former discontent only comes out more prominently, because the burdensome history is no longer there to check it. We hoped to be able to put one study in the place of the other, but the grammar is not acceptable. It remains a stranger,

nothing comes to meet it, and the earlier occupation is not so easily dismissed as would appear.

Is there not indeed something similar to this in the strange conduct of a people, who have just thrown off a government with which they were discontented, and who now, when another has come in its place, instead of attaching themselves to the new ruler, give way still more to discontent? Indeed, I much fear that the principle under consideration reaches much further than might have been thought at first sight. He who is suffering from some indisposition seldom notices that it is a combination of many elements, which together enter into equilibrium; he hopes by some remedy to arouse again the earlier healthy life. If now this remedy only touches a part of the complex evil, then the increased activities of restored health are not the first to come into prominence; rather does the other part of the sickness increase, and by gradually gaining ground it makes the application of the remedy of no effect, even as regards that part of the indisposition which it touches.

The temptation is great to apply what I have just said to disease, especially as this depends at least as much upon inner conditions as upon outer. We are not obliged here to think of definite diseases to which names are assigned by physicians, although even these may not be so simple as a single definite name seems to indicate. But that which we are wont to call comparative and, consequently, imperfect health, is certainly not simple; rather is it a condition of equilibrium among many kinds of evil mutually disguised

one by the other; of these, according to circumstances, now one, now another, comes the more into prominence; but no *one* is really cured, even though remedies are applied which might have proved successful in simple cases.

Meanwhile, we will willingly leave these supplementary remarks, to which here it is not possible to give greater precision, and we will turn back to the sphere of education. Have you not yet felt the perplexities of a teacher, with children who have been spoiled? A young man has an inclination for card-playing and low pleasures; you deny him these. What happens? Other secret evil inclinations, which through those diversions were held in check, grow stronger; the nobler things which you wished to put in their place, but which indeed should generally come as a response from within, do not seem to thrive; they even fail when their existence is due to earlier youthful impressions, which only require to be freed from hindrances and provided with fresh stimulus. The new thoughts which you substitute must wither before even they can be properly received into the existing thought circle. Hence the result, that very soon card playing and low pleasures will again be the order of the day, for the man was not changed from within.

Now I pray you to compare with this the educational directions which one generally finds in books. The faults of pupils have received names; against each fault you find directions for its cure; some volumes of Campe's works have often reminded me of the old medical writings which are full of prescriptions, so

that we might think we had before us a treasury of medicines, as valuable as they were safe, and it would only be a matter of choosing the best among so many remedies. In this case we may justly complain that the world of books is quite different from that of reality. But how is that? Had those teachers really no experience?

Oh, yes, they had experience indeed, but they did not know how to make themselves at home in it. The faults of the pupils, as subjects of pedagogical reflection were, and rightly so, to be explained by psychology. The psychology was at hand, indeed, if people sought to set their thoughts in order, or write a book. But what was at hand? True psychology? No, the old doctrine of the soul faculties. Now it was imagination which was supposed to be diseased, now understanding, at another time the will; and again moral reason. The true connection of things could not be more seriously misrepresented, or collective experience be made more useless, than in theories in which even the first concept of the laws of the psychical mechanism is wanting; and is so completely wanting that the psychologists of the present day actually are not yet in a position to grasp it, on account of the absolute impossibility of combining it with their accustomed prejudices. And what are our schoolmen of the present day doing with it? They are writing archives for philology and education. Who will grudge such to philology?

LETTER XVI.

Hindrance to the perception of what is new; (i.) Fear, which assumes an appearance of indolence, and is excited by foreign names, unknown characters, etc.; (ii.) Anger, appearing in more vigorous characters, resenting the claims made on attention—Means of counteracting fear—Patient instruction in childhood, thus avoiding the dangerous novelty of objects; a judicious use of the so-called play system—Importance of strictly continuous work with dull children; physiological hindrance sometimes to be overcome by the emotion roused; benefits of the cane and the stern tutor—The necessity of curtailing study in cases when the physiological hindrance proves obstinate.

EVERYONE except you, my dear friend, would now require of me that I should say what the practical teacher has to do in such difficulties as those I have mentioned. That is the reason I write letters to you. You may add to what I have said in my name. You know that no practical teacher stands alone; that if help is possible this must be common to all. If public opinion be led astray by those who are considered competent, it will work against the teacher more powerfully than any single evil. Some time ago I should have again taken up my pen, laid aside a quarter of a century before, to write on Pedagogics, if I had not known that for a better education a fundamental *Science* of Education was necessary, and that for a Science of Education psychology was necessary, and that if the latter at any time prospers, then the science of Pedagogics and practical education will follow as a

natural consequence, provided that beyond everything we seek them in the family and carry them into practice. So long as people deceive themselves on this point no science renders any assistance worth mentioning.

Let us now turn back again to the point at which we were considering the first emotion which the new object can arouse. Fear is universal; anger more rare. Still, the human organism, if it is healthy, and if the new impression is sufficiently gentle, protects itself so effectually against these otherwise natural emotions, that, in healthy children, curiosity, which otherwise would follow fear and anger, generally comes forward quickly enough, so that these emotions cease to be noticeable, for the time which they require to develop is excessively short. But we have already acknowledged, nevertheless, that this curiosity is not general; for often enough a dull indifference takes its place, in which the new does not penetrate, and the old, which is analogous to it, is not properly reproduced. The existing state of consciousness changes but little, almost the only effect being the dulling of the mind; this, however, passes over quickly if there is not too much of the new, leaving it so unchanged that no one could assert any progress had been made.

Now, psychologically we could account for what has just been described without borrowing from physiology more than the idea of a hindrance. If, on the other hand, fear or anger becomes noticeable, we must seek the explanation in the relation between the nervous and capillary systems. You will not, however, be

inclined to deny that something of all this, even when striking symptoms are not prominent, does actually appear in many individuals; that the one thing corresponds with the other, and that the difference of temperament which we had begun to investigate rests to a great extent upon it.

In order now to examine details a little more closely, perhaps you are inclined first to question about fear, as to whether it often hinders the reception of what is new.

Naturally I do not here speak of that fear, which in danger, and threatening evils, arises from the uncertainty about that which may possibly happen. The teacher who does not know how to deal with such a reasonable fear, arising from ignorance about things,—just in the same way as we make a timid horse approach the objects at which he has shied,—such an one is too lacking in common shrewdness to derive any help from theories.

But I have in my mind that secret fear which assumes an appearance of indolence and laziness in learning and work, and wherein the mind wanders, whilst the body still sits quietly before us. Many are frightened at foreign names, Greek characters, algebraical symbols, and geometrical figures, who know how to throw a fair enough cloak over the emotion of fear, by asking for congenial, intellectual occupations, just when efforts are being made to cultivate their mind and taste.[1]

[1] That is, the children do not recognize the efforts which are already being made to cultivate their mind and taste. Such complain that they do not see "the good" in certain lessons, and ask to be allowed to change them, (such as algebra and geometry for literature and history), the cause really being that they are afraid of the new symbols.

In vigorous natures instead of this fear, suppressed anger is aroused. They resent it that claims should be made on their attention.

Shall I propose an antidote for this fear? Only one of a radical nature is known to me, and, if used too late, it turns out far from easy and scarcely practicable: it is patient instruction, which advances very slowly in quite early childhood. Women and mothers, who earnestly endeavour to prepare the way for further education, generally take the children with marvellous patience round about the house and garden, and teach them to read and count. Proceeding in this way we shall gradually avoid the dangerous novelty of objects, which, heaped up together, may later produce an incurable dread of school. On the other hand, when a teacher appears before an unprepared pupil, with masses of strange sounding words and symbols, even the clever feel distress, and with young people who live amid wealthy surroundings no constraint and no exhortation is afterwards able to overcome the mental revulsion.[1] If ignorant teachers of youth mistake for really trifling play, without end or connection, the slow, sometimes apparently playful kind of procedure in very

[1] The danger of arousing fear by the presentation of the new in teaching, is specially serious on account of its paralysing effect upon the will. Herbart defines will as "a desire coupled with the presumption that it will attain its object." "Whoever says 'I will,' has already conquered for himself the future in thought." Desire then is the "mere self-inclination to an object, without the assumption that

early instruction, they give occasion just as much to false judgments on the so-called play system, as when the apparent play is raised to an universal method, and is even applied to such natures as do not require it, to whom the new is not oppressive or effective in rousing either fear or anger. Only with those who are much too excitable from physical, or to us unknown causes, whom the new rebuffs, (especially if not in any way made palatable), we must by a slow method of pro-

it will be reached; its passage into volition "depends upon insight into the attainableness of the desired object."

Fear is only too likely to produce doubt as to our own power to grapple with the new.

> "Doubt—a blank twilight of the heart—which mars
> All sweetest colours in its dimness same;
> A soul-mist through whose rifts familiar stars
> Beholding, we misname."

The same thought is expressed by Robert Browning—

> "He wills, how should he doubt then?"

If this fear and doubt of his own ability become habitual in a child, all action will be crippled. Hence the importance of first lessons in any subject, that the pupil should not feel overwhelmed by the strangeness of the new methods, or discouraged by the thought of future difficulties. Hence, too, the serious results of setting a lesson really beyond the strength of the learner, who thus will lose confidence in the teacher's knowledge of his pupil's ability, and will not attempt tasks which he could really accomplish.

As regards the ethical bearing of the subject, we see a vivid example in Mephistopheles' dealings with *Faust*, where the taunt always was, "Thou *canst* not do the right." This was the meaning probably of the fatal bond. As Marlowe's version makes clear, the fallacy lay in the *belief* in the validity of the compact. If once the ill-fated man could have realized that the deed was *illegal*, that he *could* repent, the power would have been there. Hence the evident anxiety of Lucifer, and the fierce attempts of the spirits to daunt Faustus by fear; once let Will step in, and their game was lost. But, as Herbart strikingly says, "Dejection, which becomes habitual, is the consumption of character."

cedure gradually lead up to what is unfamiliar, after it has already been skilfully portioned out. The bright, strong natures, on the other hand, are best won by a quick method, which places them at once into the middle of an occupation which soon awakes interest. Without distinguishing between individuals, however, no rule is here at all possible.

It is a happy chance if the excitable are not at the same time dull. When this deplorable quality is added to the former we shall never make much progress.

With merely dull children, if thoroughly willing, *i.e.*, fearless and not hot tempered, the best results are attained by strictly continuous work. I have known such who did not grasp a thing till their cheeks flushed crimson. The physiological hindrance in such a case can be overcome by the emotion aroused; hence we get many examples of the familiar assertion, that the rod and the cane are the best tutors; a statement, however, which is not absolutely true, or always to be followed. But certainly there are very few to whom, at least sometimes, a strict tutor would not be a real blessing to teach them to practise self-command. Constraint ought not to be quite banished, otherwise many an one would never realize how much, if need be, he can stand, and how much to expect of himself.[1]

[1] The principle here laid down should not be lost sight of in the argument for and against examinations. Granted that, as intellectual tests, public examinations may often be very faulty,—have they not their use in providing discipline to character, and training in self-command? Certainly there are some who, without them, would scarcely have realized how much they could stand, or how much, (and that, too, without physical or mental injury), they could expect of themselves.

But what is to be done when the physiological hindrance proves obstinate? If by steady persistence it cannot be overcome at all, or perhaps not often, or not without danger to health, character, and the external relations of life,[1] what else remains to be done but this, to lessen the mass of new things which are to find an entrance, and to require from reproduction, (on which we must count for the sake of association), only what is easiest and most familiar, renouncing what is difficult and remote. And what does that mean? Nothing, I suppose, but to remain as near as possible to the individual's original circle of thought, *i.e.*, to reduce the learning. Even in the most onesided learning, however, the question remains fraught with danger, whether the obscuring process will decrease or increase in the course of years. In robust subjects we may perhaps hope for the former; in the weak, as experience teaches, the second is only too much to be feared, and that especially after mental strain.

[1] Here the relations in which the children stand to the people with whom they are associated.

Letter XVII.

The curiosity of children aroused by the struggling forward of the old in the new—1. Vaulting and Tapering: Examples taken from the sounding of musical tones—A tone B is to be aroused by a similar tone (c)—Tones (a) and (β) then in consciousness suffer an arrest, and other older presentations similar to B also rise. If now instead of B we take the tone (b), which is very like (c), we shall conclude that when (c) is sounded not only B, but a little of (b), and of all the tone presentations between (b) and (c), will work up into consciousness. We conclude, then, that every presentation directly reproducing itself, brings up others with it, which share in its freedom from arrest to some extent. But while *they* are subject to a growing necessity to again sink, the one (*i.e.*, in this case B), which is exactly similar to the present perception (c), combines with the presentation just produced by the perception. Therefore "vaulting" is the rise, "tapering," the sinking of all the neighbouring presentations taken together, leaving the one similar presentation jutting out sharply; in this process we see the basis of children's curiosity—2. To what extent desire is present in curiosity—Desire is to be found not in *direct* reproduction, but in *indirect*, when much that is associated rouses expectation and appears in new connections.

ONE thing remains still to be considered, and that is, the more favourable case,—the curiosity of children. What a strange craving it is! How can the new be already an object of desire? It was formerly said, and with reason, "Ignoti nulla cupido."

In short, (for I must not detain you with rhetoric), the new is not the object of the desire, but the old, which struggles forward in confused expectation, and requires sense-perception to bring it into order.

"What did it look like?" "How was it, and how did it happen?" so questions curiosity, and children even ask about myths and fables: "Why did he do that?" "Why did he not rather set about it thus?" For the illusion is strong enough in the child to give life even to the doll, and change the stick into a horse; more than strong enough then to create a wistful interest in imaginary characters. If the poet were not able to make us children again, how could he rivet our interest in the Epic or the Drama?

Now I wish you to bear in mind the expressions "vaulting" and "tapering," which I shall often have to use.[1] If the words have escaped your memory it is my own fault, for they do not stand in a favourable position in my psychology, and we make too little use of the concepts which they denote. Every direct reproduction furnishes an opportunity for their use. To show this I would refer to the former presentation *B*, which

[1] A full explanation of Apperception, including "Vaulting and Tapering," is given in the Introduction, pp. lxiv.-lxx., and should be read before Letter XVII.

The example given here may be thus summarized: A child has at some previous time heard the tone *B*, the presentation of which is at the present moment sleeping. The note is now struck, producing a presentation in the child's mind exactly similar to that which is sleeping. This new presentation, which Herbart calls (*c*), reproduces *B* and combines with it. But with the arrest of the irrelevant thoughts (α and β) other presentations neighbouring to and blending with *B* also arise into consciousness, sharing in *B*'s freedom from arrest. Such are (*b*) and the presentations of any tones between (*b*) and (*c*). This rise is called the "vaulting." The "tapering" consists of the subsidence of these neighbouring presentations, whilst the only one which is exactly similar, viz., *B*, continues to rise, and juts out as it were clear and distinct.—See Introduction, p. lxix.

was aroused, while (α) and (β), existent in consciousness, had to suffer an arrest through (*c*). We will now assume that there are other older presentations very similar to *B*, and thus also of nearly the same kind as (*c*); of these very nearly the same will hold good as of *B*,—that is, while the arrest becomes less they can rise, and having the power they make use of it. If need be, you can take the letters *B* and (*c*) for the names of two musical tones, although I did not originally intend this. If now for once we write (*b*) instead of *B*, we shall indeed no longer assume, as before, that (*b*) is of the same kind as (*c*), but it will be still very near it, and you will not long be in doubt, that if you hear the tone (*c*), a little of (*b*), and of all your audible stock of tone presentations between (*b*) and (*c*) will work up into consciousness. If that were not so, the tone (*b*) would never have received the name c-flat,—for c-flat means a lowered (*c*), therefore (*c*) can be considered as changed to c-flat. However, since the tone (*b*) is by no means the nearest possible one to (*c*), but is removed, on the tone scale, to a very appreciable distance from it, it is a matter of course that every presentation, which can be considered as a point lying between (*c*) and (*b*), rises up the more easily in proportion as it lies nearer to (*c*); and that this holds good just as well for tones between (*c*) and c-sharp as for those between (*c*) and (*b*). Let us now put the example on one side. Every presentation, directly reproducing itself, will have others near, which, with it, immediately become more or less free from the arrest which has hitherto acted, and these, in con-

sequence, begin to rise. But how far can they succeed? If the tone (*c*) now actually sounded, the longer it continued the less you would retain (*b*) in consciousness.

If a definite sensation is given continuously, its neighbours indeed rise, but at the same time there rises a growing power of arrest, that is to say, a growing necessity to again sink.[1] That older presentation, which is exactly of the same kind as the present perception, is the only one which does not fall under the same rule as the rest; it need not again sink, but as much of it as has arisen, combines without further difficulty with the presentation just produced by perception.

Are the words "vaulting" and "tapering" now clear? Vaulting is the rise, tapering the sinking of

[1] To explain Herbart's usage of the difficult word "Hemmungs-summe," *i.e.*, the sum or collective force of the arrests, it will be necessary to give a short account of his theory of the nature of presentations.

Prof. Ward, in his article on Herbart in the *Encyclopædia Britannica*, summarizes it thus:

"In his Psychology Herbart rejects altogether the doctrine of mental faculties, as one refuted by his metaphysics, and tries to show that all psychical phenomena whatever result from the action and interaction of elementary ideas or presentations (Vorstellungen). The soul being one and simple, its separate acts of self-preservation or primary preservations must be simple too, and its several presentations must become united together. And this they can do at once and completely when, as is the case, for example, with the several attributes of an object, they are not of opposite quality. But otherwise there ensues a conflict in which the opposed presentations comport themselves like forces and mutually suppress or obscure each other. The act of presentation (Vorstellen) then becomes partly transformed into an effort, and its product, the idea, becomes in the

all the neighbouring presentations taken together. For that which rises, taken collectively, forms, as it were, the figure of a rising vault; but when subsidence begins, the centre still continues to rise, whilst round about the neighbouring presentations sink; and the middle forms, as it were, a point which juts out the more sharply the longer this process goes on.

It were desirable to have a mathematical statement of this process, but I have not yet arrived at this point, and shall the less reach it as there are so many similar needs, some with far greater claims. For immediate use, what has been said may quite suffice.

The curiosity of children was our subject. Under such a general term, so many kinds of things are now included all at the same time, that in different cases the most various considerations of a connected nature may come in; but it scarcely requires any further explana-

same proportion less and less intense till a position of equilibrium is reached; and then at length the remainders coalesce. We have thus a statics and a mechanics of mind, which investigate respectively the conditions of equilibrium and of movement among presentations. In the statics two magnitudes have to be determined—(1) the amount of the suppression or inhibition (Hemmungs-summe), and (2) the ratio in which this is shared among the opposing presentations. The first must obviously be as small as possible: thus for two totally opposed presentations *a* and *b*, of which *a* is the greater, the *inhibendum* = *b*. For a given degree of opposition this burden will be shared between the conflicting presentations in the inverse ratio of their strength. When its remainder after inhibition = *o*, a presentation is said to be on the threshold of consciousness, for on a small diminution of the inhibition, the "effort" will become actual presentation in the same proportion. Such total exclusion from consciousness is, however, manifestly impossible with only two presentations, though with three or a greater number, the residual value of one may even be negative."

tion to show that the already-described vaulting and tapering may serve as a basis on which to build. If a gaily-coloured moving object presents itself to a child, or if a story fascinates a boy, it certainly is not a question of merely a single point (*c*), and a single presentation *B*, with its neighbours; the tapering also does not take place in so perfect a fashion, at the point where it began, as if the perception were stationary till it were over, but the vaulting begins at every single point of the object at the same time, and the points shift every moment while the process is going on. But such things are self-evident, and it would be ridiculous wishing to expend or to require any more words over considerations which belong to mathematical psychology.

Only one question may occupy us here for a moment: that is, how far can we recognize in curiosity a desire, and its satisfaction in the observation of the new object?

Nothing need be said here about the folly of those who imagine a special desire faculty, and a reciprocal action between the desire faculty and the desired objects; who do not understand that all desire and all satisfaction simply take place in the circle of presentations, in the conditions of which they cause change.

But this should be mentioned, that the origin of desire must not be sought in direct reproduction; for in the mere rise or sinking of the presentations there is nothing of the feeling which is associated with a want, and consequently still less of that which is

connected with its satisfaction. But very frequently indirect reproduction combines with the direct. That is to say, every presentation does not rise merely by its own force, but is maintained and borne on to the points which it reaches, by those with which it is partially blended. Let us pause a moment here.

Previously I have spoken of neighbouring presentations. In large towns neighbours often do not know each other at all; then each one acts for himself, independently of the rest. Such "large town" conduct I have before described; the neighbours came of themselves, and then departed without further delay, when they were sent home again. But if we turn now to a little town where all know each other, then the neighbours hold together better, and they feel it, if one is separated from the rest. So also act the neighbouring presentations which come forth at the same time, *if* they have already blended with each other.

With curious people not only many kinds of things, but also much that is associated, struggles out at the same time. But the subject which satisfies curiosity rouses first expectation, in that it concedes some points and neglects others. Then it adds much that is unexpected and, therefore, really quite new; that is, new in the connection in which it now appears. Thus it gives new points of support to the aroused presentations, and in these stronger associations; while at the same moment the upward struggle against existing arrest is promoted; that is to say, curiosity is satisfied, since the questions wherein it expresses itself, or could

then express itself, are answered. Certainty instead of doubt is generally satisfaction. In a narrower sense an object is said to be satisfying if it comes up to, or even rises above our expectation; in the latter case it borders on the æsthetic judgment of which we are not now speaking.

Letter XVIII.

Necessity of vaulting and tapering in Instruction, since the former brings about association, and the latter precision, definiteness, and accuracy; (i.) The effect on this of the physiological hindrance is to produce rigidity of mind—Consequent rising of the older presentations *alone*, with *no adequate vaulting*—Example: The mechanical learning of just that which is strongly impressed: result, isolated scraps of knowledge; (ii.) Tapering defective: result, an appearance of philosophy, with little power of criticism; (iii.) Comparison of mental rigidity with the Bœotian temperament—In the latter there is lack of sensibility, both to the inner and outer worlds; in the former there is sensibility to the inner and outer worlds, but no sufficient movement and response from within, *i.e.*, the presentation store lacks the power of using its own elasticity—In the rigid mind the hindrance is working at the point where presentations struggle up to the threshold of consciousness; hence a small hindrance may easily spoil so weak a force as the beginning of vaulting—In the Bœotian the hindrance has to be strong enough to prevent the sinking of the sum of arrests among the presentations, hence it is a much rarer case than that of mere rigidity.

SHOULD children be actually required to show curiosity in confronting everything new which presents itself, or which we offer to them? Curiosity is often inopportune, often neither possible nor necessary.

It is often inopportune, only on account of the circumstances in which we find ourselves; that, is however, no fault in disposition. But often it does show a fault, since it reveals evil desires. Yet the fault does not then lie always in the curiosity as such,

but in the emotion, which has its seat in the older and now aroused presentations, and its root in the organism. Therefore we shall blame this, and not the curiosity itself.

In instruction, curiosity is only possible in its developed form when sufficient association has been established among the older presentations; that is, here, in the knowledge acquired previously. Then we call it *Interest*,[1] although other definitions also apply to this word. But for successful instruction only that first

[1] The comparison which follows between rigid minds and Bœotians can scarcely be fully understood without a deeper knowledge of HERBART's *Mathematical Psychology* than is required for the greater part of the present work.

The following points may, however, be noted:

1. In the Bœotian, or peasant mind, the physiological hindrance affects the presentations actually in consciousness, and prevents their blending or influencing each other. The peasant fails to grasp the relation between the facts he knows. He perceives new things, but does not understand their significance. His mental world, even as his outer life, suffers but little change. Winter and summer, cold and heat, seed-time and harvest, are but pictures of the simple transitions of his ordinary thoughts. Herbart seems to mean the typical dull mind.

2. In the case of rigidity the physiological hindrance affects the rise of presentations into consciousness; that is, it obstructs the vaulting, preventing the appearance of the neighbouring presentations which should accompany the reproduced and similar ones. Hence the comparison of clever women with men of evidently deep thought. The former, Herbart notices, are remarkable for greater versatility and quick wit. The latter are anything but dull; but possibly their very habits of concentration, of shutting out all thoughts which even *appear* irrelevant, prevent their allowing that free, bright play of the psychical mechanism on which vaulting often depends.

A very slight cause may easily prevent vaulting for the time, in even a brilliant mind, whereas really Bœotian dulness is a very different and more serious matter.

foundation of curiosity is necessary, which we have symbolically denoted by vaulting and tapering. Without this there is something lacking in the union of the new with previous knowledge, and also in accuracy of perception. The vaulting brings about association, whereas in tapering lies precision, sharpness, definiteness, and accuracy.

Let us return to that fault of disposition, which, in contrast to this, we shall find when the hindrance before discussed, and to be explained on physiological grounds, stands in our way. We may denote it by the expression rigidity of the mind.

If the hindrance opposes even simple immediate reproduction (XIV., XV.) it will still more obstruct vaulting, which is nothing but reproduction of a weaker kind, and consequently more easily hindered. What is the result? Those older presentations which succeed in rising, (although to a less degree than was intended), remain almost alone. They have not brought with them the apparel with which they should be clothed. They stand there already pointed, and cannot therefore be made to taper any more; hence the movement is lacking which was expected, and with it the feeling which would have been appropriate to it. Thus something is learnt mechanically, that is to say, at each moment the pupil learns just that thing which the tutor or experience sufficiently impresses. As it was indifferently received, it will also be carelessly exposed to a sinking back out of consciousness. Of everything thus learnt a small amount gradually becomes fixed; this enters into association, and if in the course of time

the association attains any considerable energy, it then becomes rigid and admits nothing more that is new. In this there are different degrees. One succeeds with difficulty in learning his mother tongue, but a foreign language is quite out of the question. Another learns Latin also, but no one must worry him with Greek. French sounds to him like poor Latin, English like bad Latin and German. Not without reason to be sure, but that is no benefit to him who thus deprives himself of modern languages.

In later years the minds of such people are almost like bags containing stones, pebbles, or sand, according as their mechanical industry in youth was great, small, or non-existent. For the diligent there are many lines of study, and for the studies various teachers. They perceive that interconnection which they happen to find in the sciences, and later they allow no alteration in it. The idle learn nothing of interconnection, and do not discover association, though they know much that is isolated.

The contrast to this is in those who seem philosophical, because everything appears to them connected. The vaulting is then present. But if the tapering is lacking, emotion, even enthusiasm, arises rather than criticism. To this class belong those who require philosophy to be throughout of one form, and who are told in vain that Logic, Ethics, and Physics are different sciences.

That we may not fall into mistakes I beg you to compare the rigidity which I have just described with the earlier mentioned Bœotian temperament. Sometimes the two are combined, but by no means always; on the contrary the rigid minds may, and often will, appear of very good mental power in comparison with the Bœotian. Where lies the difference? In the Bœotian subject we found a lack of sensibility, not always perhaps in the external senses, but simply in the irritability of one presentation mass as regards the other. In this case the ruling masses of the presentations existing at the time do not permit their condition to be changed by that which approaches them, whether from within or from without. But with rigid minds the fundamental defect is of a different nature. They receive that which presents itself, they learn from the outside world, and they are sensible of that which is within. Only when the movement ought to come from within, when the vaulting before described should take place with considerable breadth, and should only then begin to taper off, the basis of it all does not prove flexible enough, and therefore affords too little help to the apperceiving masses of presentations. We men often enough find ourselves in this respect disadvantageously placed in comparison with clever women, to whom the solution of a riddle occurs sooner than it does to us, and who for this very reason in social relationships are quicker to notice, trace out, and take into consideration that which is scarcely perceptible, and which escapes us easily. We are not Bœotian, for we feel quickly enough what we have missed when it is afterwards explained, but we were rigid when we ought to have directed mental vision in the right direction to perceive it. As our books make us physically short-

sighted, so the manifold exertions of our reading and thinking have injured our brains,—who knows to what extent,—so that the presentation store often cannot make its natural elasticity available, or at least only when it is too late.

It is not a matter of consequence here to either of us to pass judgment on the brain, and to investigate physiologically its possible defects. But it is very necessary that we should psychologically distinguish, whether the hindrance is working at the point where presentations struggle up from the threshold of consciousness, or, where the presentations already existing, have to submit to some arrest through the coming of the new presentation.

Which of these two cases presupposes the greater hindrance? That is to be estimated by the energy which is met and repressed by the hindrance. If presentations have already come together in consciousness which cause a sum of arrests, a hindrance of a very powerful kind will be necessary to prevent the sinking of the sum of arrests, and thus the corresponding alteration of the whole state. The case is quite different when the hindrance only affects the vaulting process. You know the proposition from my psychology; the reproduced presentations rise at first according to the square of the time, or rather according to the cube of the time, if the new perception which is arousing them requires, as usual, a short space of time in order to become even noticeable. What does that mean, and to what does the proposition refer? In the first place it means this

much, that for the first few moments or for a very short time, we shall find the reproduced presentation move with one-half or one-third of this energy. Consequently it is very easy to hinder so small and so weak a force. But the proposition more especially refers to that reproduced presentation, which is exactly of the same kind as the new perception. This now has somehow more energy than its neighbours, which have to develop the above-mentioned vaulting. Consequently a smaller hindrance will now so much the more easily spoil the vaulting, or may at least disfigure it, if it does not proceed symmetrically at all points. Hence we very naturally find rigidity much more often than the Bœotian temperament, which presupposes a much greater deviation from the normal condition.

LETTER XIX.

The case of lively, pleasant, but superficial children—Apparent absence of consistent characters in real life, as opposed to the simplicity of mental phenomena in poetry and the old psychology; (1) Understanding found to be not of the finest type in such cases—Memory good for isolated facts, unfavourable for associations; (2) Demand for constant recreation, society, change; (3) Inability to attain alone any continuous trains of association—Cause: A physiological hindrance, which is intermittently, not continuously active.

A SLIGHT change in our former supposition as regards the hindrance will place us in quite a different region of our educational circle of experience, and we shall get an example of how very similar causes often show a wide difference in their effects. Such examples are important as a warning to us not to seek afar off that which lies at our feet, and above all not to be surprised at cases which can be explained in the simplest manner.

Doubtless, my dear friend, you know a class of mind which seems just formed to buoy up and deceive the teacher with false hopes. Lively, pleasant children, quick in perception, acute in observation, clever and robust, who indeed are somewhat troublesome to hold in check, but who still can be guided, and in whom, if controlled and kept from evil, what is good and right comes forward spontaneously in various desirable ways. Only the pity of it is that in the end nothing becomes

settled and firm, the flesh is and remains stronger than the spirit.

The old psychology will say: "What you see here is sensuality; it is the difference between understanding and reason; the clever mind, which, as soon as it is a question of duty, subordinates reason to sensuality!"

If the matter could be sketched in such rough outlines we should certainly give ourselves no trouble over a reason, which is for ever enslaved, and we should expect nothing better than a thoroughly selfish understanding, as is often enough depicted on the stage, and I believe still more often in novels; for poetical characters, or such as the old psychology describes, are uncommonly consistent, whereas in actual educational experience so varied and so vivid is the play of colour, that one has some trouble in finding concepts which adequately correspond to facts.

With regard first to the understanding, in the class of people referred to, if looked at closely it is seen to be not of the finest type, in spite of frequent apparent brilliance. Quite apart from duty or enjoyment it appears volatile and aimless; with this is observed a wonderful memory, which is excellent for a multitude of isolated facts, but quite unfavourable to associations; so that, (speaking in accordance with the old psychology), understanding seizes upon and grasps many things with extraordinary rapidity in study hours, of which memory will retain little or nothing. I say intentionally "will retain," for it seems as if this otherwise good, and indeed excellent soul faculty were positively capricious. Hence a natural delusion arises

in the mind of the teacher. He investigates the matter. Has the young man a bad will? No; he does not even quite know what he wants; at any rate his will adapts itself to circumstances. Why cannot we then obtain from him a good will of such strength and persistency, as is required to retain and impress once and for ever what has already been sufficiently grasped by the understanding? If he remembers so many isolated facts, why should he again let go what is connected, when it has once been rightly grasped?

If the features of my description, gathered from experience, appear sufficiently clear, my good friend, you already know why I have added this to my previous remarks. At first sight, to be sure, nothing can look more unlike, than the ability of which I am now speaking, and the rigidity which was the subject of my former letter. But you will have already noticed that just behind the ability is hidden a peculiar kind of rigidity, which in no way depends on, or proceeds from the will, but which exerts upon it a very strong and unfavourable influence; that is, association is lacking in the case just considered, even as in the former one. Here, as there, perceptions exist isolated and in fragments, and instead of unbroken transitions we find flaws and rents.

To what, then, does this class of phenomena point? Perhaps I ought to have said that at once.

That hindrance, which has already occupied us for so long, is not always a continuous one; it may arise and pass away. The organism can bear, for a certain length of time, a certain amount of strain on the

mental side, but unless it is to cause a fatal reaction it must not be increased or prolonged. This is familiar enough in all cases when a mental strain is intentionally continued too long. Now think of people who require a little recreation every moment, and whose organism actually procures this liberty for itself, even before they notice and consciously decide upon it. Upon that they are fresh again immediately, in quite good humour and mentally active; but the thread of thought is broken and changed during the pause which has just taken place. Such can attain anything which is to be won in haste; they even appear rich in thoughts, at least, in sudden thoughts, and they are still richer in words. But one peculiarity betrays their weakness: they cannot be alone. Company, or at least a book, must ever come to their help; and not too serious company and no systematic book; that they call dry and slow, if they speak frankly. But they are not always frank and not always incapable of self-control; on the contrary, a definite purpose or a definite situation always incites them to sufficient exertion to conceal their weakness. If anyone helps them by offering variety, leading them from different sides repeatedly back to the same point, their thoughts easily attain an apparent harmony, a momentary connection; but if left alone they string together loosely passing ideas, then they grow dissatisfied with themselves, and seek distraction or actual excitement. Hence an appearance of dominant sensuality, which often cannot in any way be assigned to the sanguine temperament or to unusually strong vegetation, but which has to bear the blame, so that

the fault may receive a name suggested by its possible future consequences. What forms of evil have not been ascribed to sensuality in cases where it is quite innocent?

But why have these people a bad memory, together with one which is excellent? A bad one for associations, a good one for isolated facts? Why is their memory still bad, even when reflection has penetrated into association? A provisional answer is easy. They seemed to penetrate into association because they could knit together the extreme ends of the thought threads, but the earlier facts had escaped them and the later were not yet foreseen, when for the moment they were following connected instruction. Their minds thus produced no association, but they were led over narrow bridges, on which at each moment they saw only the points on which they must next tread.

In these natures the roots of the evil lie just as little in the will as in sensuality or memory. They in no way resemble those contradictory minds which we previously pointed out as afflicted with the choleric temperament, they are too shallow for that. Nevertheless in youth they are apt to assume a stand-off manner, which is a mixture of vanity and dogmatism; if it should happen that they retain one thought securely and combine with it a longer series, conscious of their usual weakness they attach to it a special importance; they then willingly yield to the delusion that they have no need of earnest thinking and accurate knowledge, and so may reasonably leave it to others.

LETTER XX.

Examples of vaulting and tapering:

(1) Music.—When tone (*c*) is heard the vaulting should include every tone presentation which has ever been heard within the upper and lower octave; these would then be quickly suppressed by the tapering process, which brings (*c*) into prominence in opposition to all other tones.

(2) Complex vaultings and taperings in language; every word and every letter produces its own, on the success of which depends the comprehension of the whole.

Three sources of possible error:

(1) In the foundation whence the vaulting is to rise.

(2) In the hindering of the vaulting.

(3) In the interruption of the tapering; of these (2) and (3) may depend on the physiological hindrance, (1) refers us back to the thought structure which existed before reproduction took place.

Limitations of a mind which is only capable of forming short series.

LET us turn back now to the concepts of vaulting and tapering. The vaulting ought to be actually large enough to embrace all those presentations which acquired any degree of freedom, any free space, (as I called it before), through the new object presented. The above-mentioned example (XVII.) may illustrate this. You know that I considered the distance of the octave on the tone scale as that which must be traversed before we reach the point of full contrast. This being granted, when the tone (*c*) is heard, every tone presentation which had ever been heard within the upper and the lower octave should be roused

into activity. The basis of the vaulting should thus embrace not less than two octaves. But if the perception of the tone (*c*) just sounded, only attains the smallest duration, it is certain that by far the larger part of this vaulting is very quickly suppressed again on account of the opposition between (*c*) and the other tones. This suppression is already part of the tapering process, which, however, will require an appreciable time to develop fully. If anyone tries to sing the tone (*c*) just heard, and sings it incorrectly, whilst he fancies he has hit it right, the tapering process in him is certainly not perfect.

Without troubling ourselves further over the example, let us notice here two concepts of very general use: that of the basis of the vaulting, and that of the time which the tapering process requires to attain a definite degree of accuracy.

Further, let us consider that if a given perception is not simple, then the vaulting caused by it will be of a complex character, and that if many perceptions follow each other more quickly than the adequate taperings can take place, the process arising from this must also be very complex.

It is worth while here to think of language, and of how we understand it. Each word, (indeed really each letter of every word), produces the vaulting and tapering peculiar to it; the comprehension of a whole sentence proceeds from all these points, and is the total result, which is only thus possible.

In order now to retain the former figurative expression we must imagine many vaultings, one inside

the other, which are conceived of as being in constant movement, rising and sinking, till the most perfect comprehension is attained.

Who will wonder that such a process is easily injured?

Granted even that we always spoke faultlessly, scarcely one of our hearers would fully understand us. But there appear to be three sources of possible error:

(1) In the foundation itself, whence the vaulting is to rise.

(2) In the hindering of the vaulting.

(3) In the interruption of the tapering.

The two last errors may depend on the hindrance which is to be explained physiologically, whether it be continuous or intermittent; but the first fault, (*i.e.*, if the presentations which are to arise have not themselves the right construction), sends us back at the outset to psychology; it must also be of an earlier date, since the basis, and foundation, formed by the sum of existing presentations, was doubtless there before the opportunity for reproduction made its appearance.

You already see, my dear friend, that I shall soon invite you to go with me more deeply into the matter, since I now bring into the question not only the reproduction itself whilst it occurs, but also the structure which must be already there before actual reproduction takes place.

But I must not forget that this is the place for a remark on the possible form assumed by that which is to be reproduced. If a hindrance of a variable kind, with pauses in its activity, were established in

the organism from birth, then the development of the series of presentations itself, which we must now soon take into consideration, could not help suffering under its influence. The threads of thought must everywhere turn out short, as if they had been frequently cut off. If they *had* developed in those pauses, the hindrance, already attaching to the presentation process, would have appeared again, and, coming in just like a pair of shears, would have brought them to an end at a point, where as regards the subject, the end ought not yet to have come. Thought will then inevitably appear like a badly-punctuated composition. Such seems to be always the case with absent-minded listeners. Even though experience and instruction often resemble a book which can be read over again, this is not what happens always; besides, the most necessary repetition is often omitted. Consequently, as a general rule, we shall find a difference in people whose thought series are short, and those in whom they are longer. If now anything *can* be compounded out of a short series, the former class will be able to produce something; but when longer series are required through the nature of the subject, then they fall short and betray their incapability. If you should perchance be thinking here of Greek and Latin authors, and of those periods, which, involved as regards internal structure, are yet joined to each other by every sort of connective; or even of the association of mathematical demonstrations, or of historical philosophy,—such a side issue would not seem to me at all inopportune, although I cannot now follow it out.

LETTER XXI.

Digression on the Perception of the Time-measure—(1) Consideration of the case of a repeated flash of light: chief difference between this and the continuous sensation before mentioned; in the latter, the tapering process is continuously active; in the former, it only begins when the sensation enters again, through the second flash—(2) The case of the clock striking (*cf.* Arsis and Thesis, *i.e.*, rising and sinking, in metre); with the first stroke the old presentations of the same tone arise, with the neighbouring ones; with the second the neighbouring ones sink—(3) Presentation of a pause; the third stroke makes prominent the time-measure—Difficulty of determining what a time presentation is—Summary: Some past series formation furnishes us with material to serve as a standard of measurement—Let *B* (as before) = a presentation which is to be recalled, of which (γ) is a part; (α) and (β) = the thoughts now in consciousness; (*c*) = the reproducing presentation—The first stroke (*c*) raises a certain amount of time-material with (γ) (the reproduced part of *B*)—The second stroke cuts off the material, but at the same time raises it again from the beginning—The third stroke again cuts it off definitely at the same place; but (i.) the pause or time material must be distinguished from the neighbouring presentations which sink under arrest—(ii.) The reproduction of *c's* by means of the succeeding strokes, must be distinguished from the reproduction of (γ), part of *B*, in the first instance—Again, at the first stroke, whilst (γ) begins to raise the time-material, the first (*c*) has time to combine and form a complex, with just as much of it as comes between the first and second strokes—At the second stroke, just that part of the time material which has blended with the first (*c*) is put into a state of reproduction—If the third stroke is late, this reproduction arising from the first (*c*) will give rise to the feeling of emptiness, by breaking off before the sound is heard—Effect which depends on the degree of strength in strokes following each other regularly—A *strong* third stroke gives rise to an ictus,

and consequently a new vaulting; if the second and third are both *weak*, both unite in tapering, and hence in subsidence—Examples: In metre, dactyls, and spondees; in music, ¾ time and ⅞; in the arts, the new vaulting also depends on varieties and fresh combinations of melody, harmony, etc.

IF you allowed me to take you for a walk, doubtless you would not mindbeing led a little out of our way, just for the sake of an interesting view. So now I invite you to a détour for the sake of a psychological outlook, which will I suppose some day, like all psychological investigations without exception, prove an important matter for education, even though I cannot demonstrate it to be so at the present moment.

We have, so far, always regarded vaulting and tapering as one connected process, and yet not merely are the concepts opposed, but we also know that one must happen after the other. Ought we not to be able, then, to separate these two? Certainly, the possibility is clearly evident.

If you saw a sudden flash anywhere, or a gleam of light shine out and disappear, what would arise in you? Vaulting. If you saw it again just the same, and in the same place, what would follow? Tapering.

But please bear in mind that even an absolutely momentary sensation, if there really were such a thing, (which can never be proved), would by no means have such an effect as to be entirely limited to the moment of its occurrence.

Let us look once more at that presentation *B*, of

which a part (γ) (see XIV.) comes into prominence. This coming forward always takes time, even if the arrest through (α) and (β) could disappear suddenly; but even that cannot be, for the sum of the arrest (between (α) and (β) on the one side, and (*c*) on the other) only sinks gradually, even if (*c*) were a momentary sensation, or could count as such. Just in the same way as (γ) gradually increases, the neighbouring presentations also rise, whose awakening constitutes that which we call vaulting. And the first difference between the present and the earlier hypothesis shows itself in this, that the vaulting remains free from that on which the tapering formerly depended, until, that is, the same sensation enters for the second time.[1] For only then begins the arrest of the neighbouring presentations, through the sensation to which they are not absolutely similar. On the other hand, the continuous sensation, considered earlier, would have been active in a tapering process throughout its whole duration.

But you, my excellent connoisseur of æsthetics, could you now guess to what investigation I am herewith inviting you? Its nature indeed is not

[1] In the earlier case, a continuous sensation was producing tapering throughout its whole duration, as, for example, when we see the light shine out from a distant lighthouse. The neighbouring presentations, which rise in the vaulting (here, perhaps, former perceptions of various lights) will be arrested, and sink (tapering) through the influence of the continuous sensation of the light.

In the second case, *i.e.*, of the flash, the vaulting will be free from tapering, because the sensation is not continuous. The tapering will not begin till the second flash, which will cause the sinking of the presentations which are not exactly similar.

æsthetic, for the judgment of the Beautiful and the Ugly is immutable, no matter whether one can understand the possibility of such a judgment or not. Still it might be interesting if I were able to solve for you the riddle of the perception of time-measure, which in poetry as well as in music is so very important.

Let us see whether we have found, I will not say yet the solution, but a preliminary to it. Meanwhile think of other examples beside the former one of a flash of light, which I only selected that the following, which are more convenient, might not stand alone, or limit the range of view in a disadvantageous manner.

The clock strikes, or you hear the drops falling from a gutter, or you beat regularly on the table, or anything else you like, so long as you have a series of sensations, which are repeated in a similar manner after equal pauses.

At this point you will naturally think of that which in metre and music is denoted by the words rising and sinking (Arsis and Thesis). I take rising here to mean the same as vaulting, sinking the same as tapering; and by this explanation not only will possible misunderstanding of the words be avoided, but also the thing itself will be made clear. By the first stroke which you hear, your older presentation of the same tone is raised, together with all the neighbouring ones; by the second the neighbouring ones will be repelled or caused to sink.

But where is the time-measure? Obviously you cannot grasp that until the third stroke, if its time-

distance from the second is just the same as the time-distance of the second from the first.[1]

So we must continue the discussion. The second stroke does not only cause subsidence to the neighbouring presentations, but also tapering to the principal one. If the first stroke made you listen, and even perhaps ask yourself, "What do I hear?" then the second stroke gives you the answer, whilst you now recognize the tone quite definitely as this and no other. But that is not all. The sinking, at the second stroke, had reference only to the neighbouring presentations; but as regards the chief presentation, the second (*c*) works just the same as the first (*c*) to procure free space for the older *B*, which is of a similar kind; thus, at the second (*c*) the free space for *B*, already won by the first (*c*), becomes suddenly larger, and it is as if *B* received by it an impetus, so that the part of it which we called (γ) suddenly increases, or, to speak more accurately, goes on growing with a sudden increase of rapidity.

If we only knew now what that actually is which

[1] Let (γ) be part of a presentation *B* of a chord on a violin. A similar chord (*c*) is struck on the piano. Though we do not know what a presentation of empty time is, we shall yet speak of the time *material*. The chord (*c*), struck on the piano, rouses a part (γ) of the presentation of the violin chord. This (*c*) also combines with the vague, indefinite presentation of a pause, which is suddenly cut short by the chord on the piano (*c*) being struck a second time. After this the time-material, reproduced through its blending with the first (*c*), will tend to stop abruptly when the limit of the first interval is reached, and if the third (*c*), (*i.e.*, the third striking of the chord on the piano), is late, the sudden end of the time presentation gives rise to the feeling of emptiness.

we call a presentation of time! The metaphysical concept of time certainly does not help us at all here. But I am now asking, what that is which we,—together with every soldier who marches to time, and every drummer who understands his art,—represent to ourselves as a pause between the two nearest beats, whilst we perceive or measure out time?

Unknown as it is, it must at any rate be a quantity which we, who are practised in the perception of measure, can make greater or less as we like, in order to play Adagio or Allegro. This quantity must be already measured off between the first and second beats, so that then, coming in between the second and third, it may indicate that the third stroke will follow at exactly the right moment. But that which serves here as a standard of measurement must really be in us a gradual event, which completes itself just at the instant when we demand the third stroke, and recognize it as coming at the right moment.

Whatever then may be the material, of which a greater or less quantity now serves as a standard of measurement, so much is clear: that the first stroke raises the material with the before-mentioned (γ), the second cuts it off, and at the same time raises it again from the beginning, and the third cuts it off once more at the place where it was before severed, which definite severance the fourth and each following stroke at regular intervals will then repeat.

You foresee, doubtless, that an accurate investigation of this material will lead us to the doctrine of the formation of the series of presentations. Indeed, if

we speak of time,—to gather up our thoughts on the subject,—we need not stop longer over the idea of an hour than of a minute; and, again, we can investigate a minute just as easily as a second. But could you conduct an orchestra if a piece of music were being produced, wherein only long notes occurred, each of the length of a minute? Even if you could, I, for my part, would not care to listen; and for this reason, because though I have the concept of a minute, that is sixty seconds, my time standard, by means of which I directly perceive measure, does not ever last over six, much less over sixty seconds; whereas I measure with ease whole, half, and quarter seconds. In the range of this convenient time standard there occurs in us a really successive presentation, which uses just as much time as serves to measure it out, and, my friend, I do not need to tell you that the laws and the full possibilities for the actual successions in this process of presentation, must be sought in the doctrine of the development of series. Later I will remind you of it quite in detail.

Let us now gather up what has been already said to see how far it takes us. Any series formation whatever, though we may know nothing further about it, has already some time ago provided us with a certain amount of material, of which the first stroke, since it reproduces the part (γ) of B, raises gradually an indefinite quantity. The second stroke gives to the (γ) a sudden acceleration; at this, the quantity of material, now exactly the size to which it had grown up to the moment of the second stroke, is suddenly

raised up still more, for it rises by means of and with the accelerated (γ). It is by the action of this second stroke, that this quantity is now cut off, and separated from the part of the material which follows, which was in the very act of coming forward, and on which just such an arrest is now at work as that which we know as the basis of the tapering process. But here I must make myself plainer. Distinguish—

(1) The neighbouring presentations which suffer an arrest as they sink, from the material which is represented as intermediate time, or as a pause.

(2) The reproduction of the first (c) through the second (c); and speaking generally, the reproduction of the collective preceding (c's) through the (c) which now follows, from the reproduction of the (γ).

That is to say, the material represented as intermediate time ought to experience no subsidence, just in so far as the time is measured, for that would be equivalent to saying that the presentation of the measurement standard suffered arrest, quite contrary to the main drift of our discussion. But it is not difficult, if you look back, to grasp the difference. What sort of accessory presentations were those which are said to have been sunk? The neighbouring ones, which you found in our previous example, when you ran through an octave from (c) upwards and downwards. But that material which changes itself for us into the presentation of a pause, and of empty time, cannot possibly be anything so definite; otherwise, in this way, we might even define that which we set aside to fill out and measure off the time-distance.

But our time-measure has no sound, even as our eyesight has no colour.

Further, at the second and each following stroke two kinds of reproduction occur together. First, the older presentation *B*, which already lay in the store of our presentations, receives a fresh impetus towards reproduction, or its reproduced part (γ) becomes larger. But second, the first, and, generally speaking, each preceding (c) raises itself at the entrance of the second and each following (c).

Now notice again that whilst (γ), at the first stroke, already began to raise the time-material depending on it, opportunity was thus given for the first (c) to combine, blend, and form a complex with this material; that is, with just so much of it as could come forward between the first and second strokes. At the second stroke now, through the combination which has arisen, just that which is associated, but no more, is put into a state of reproduction through the first (c). If the third stroke thus came too late, that reproduction which proceeded from (γ) would bring with it still more of the indefinite material, but the other reproduction which begins from the first (c) would no longer follow, because it cannot go any further;[1] and when it breaks off, it causes the familiar feeling of emptiness, which we experience if we count the strokes of the clock, and when, in our opinion, it ought to be eight the clock tells us it is just seven.

You will now notice for yourself that it makes

[1] Because the reproduction from the first stroke (c) was definitely cut off short by the second stroke.

an important difference with what degree of strength the third stroke follows, as regards its relation to the first, and especially to the second. That is, if a new rise takes place, after the subsidence caused by the second, an ictus will be attached to it. But what effect can that have? Let us ask first what effect it must have? The answer appears from what has been said previously: a new vaulting, for without it there can be no rise. Now it can easily be understood that the first stroke would have been too feeble to cause all the vaulting which was possible; the second, however, being still weaker, would thus be incapable of increasing it; then a stronger or third stroke might unquestionably complete it, if it only procured more free space. If, on the other hand, the third, together with the second stroke, are both weak in comparison with the first, then both unite in tapering, and consequently in the subsidence. This reasoning is obviously applicable to the Dactyl, and the way in which it differs from the Spondaic Metre.[1] The difference in music is of the same kind, depending on

[1] In the lines—

> "Mérrily, mérrily, sháll I live nów
> Únder the hólly that hángs on the boúgh"—

we have an example of the dactylic foot, where the beat falls on the first of the three syllables; another example is to be found in Tennyson's "Ode to the Six Hundred"—

> "Cánnon to right of them,
> Cánnon to léft of them."

The spondee, which is a foot consisting of two long syllables, is not generally used in English verse; but it exists in the words, "Amen," and "Farewell." In Coleridge's metrical lines it is represented thus:

> "Slów spóndée stálks fróm lóng tó lóng."

whether the third beat belongs to the last note in the bar, as in 3/4-time, or whether the following bar begins with it, as in 2/4-time. But in the application to the arts we ought not to forget the quantity of that which is presented to the ear. No music or poetry will offer us only beats on the drum, or the monotonous sound of the fall of drops from a gutter. With these come also a variety of words, of melody, and of harmony, which must remind us of the psychological investigations about the decrease of sensibility. If the musician, with the introduction of the new time, brings us also a new harmony, or only a continued melody, a part of the necessary power to produce a new vaulting lies in the fresh receptiveness to which he now lays claim when the former is almost exhausted; and in this way, with the lesser help of the ictus, he constantly effects the change between the rise and fall which art requires. Many other things of various kinds will occur to you of themselves, but it is time for me to close this long letter and the digression contained therein.

LETTER XXII.[1]

Presentations which rise simultaneously—Hypothesis: (i.) Two presentations (*a*) and (*b*), rising at the same time, attain a higher degree of clearness, than if, sinking simultaneously from an unchecked position, they are obliged to press down each other—Cause: At the general rising, the sum total of the arrest only gradually comes into force; at the subsidence it is in a complete form from the beginning—(ii.) If three presentations of unequal strength rise at the same time they oppose each other far less than at the subsidence.

THAT a thing which cannot be found should turn up in a place where no one thought of looking for it, is a matter of daily experience. But men who can scarcely hear the name of mathematical psychology without fear and anger, are not the only ones who fail to perceive the application of this to psychology. Even I, who have known for many a long year that the key to psychology was to be

[1] Letter XXII. presupposes so much knowledge of Herbart's mathematical psychology, that though it is inserted here for the sake of completeness, it can safely be omitted by all but advanced students. In the original, it is supplemented by some calculations of a difficult kind, touching the rise of presentations. As a knowledge of higher mathematics is required to understand the formulæ given, this supplement has been omitted in the present work. For the same reason Letter XXVII., and two other supplements, viz., to Letters XXVI. and XXXI., have not been inserted, as without a considerable knowledge of Herbart's works, (some of which have not yet been translated,) they would have been of little value to the general reader.

sought in mathematics, have found the easiest things lie hidden from me, and then have all at once discovered them when the time came that I should look for them in the right place.

Not much more than a year has gone by since you congratulated me on having found at last the clue to the calculus of the presentations rising simultaneously, whereby the examination of the sinking presentations, contained in my printed psychology, receives its necessary counterpart. You pointed out then that the effect of instruction, as well as the self-activity of the pupil, must immediately depend on the simultaneously rising presentations; hence I do not require to give you any detailed proof of the importance of the subject, and only a word about it is necessary. This, then, is the time to say it.

First of all, the vaulting, which has occupied us up to this, was a general rising, and if you will now set on one side the cause of this rising,—that is, the reproduction of the *B* through the (*c*), which is similar to it,—you will find yourself already face to face with the problem which I must now set before you; hence I have only this to add, that the extent of the arrest, which actually comes into consideration at the vaulting, (for the neighbours of *B* are just those which raise themselves into a vault), is set on one side in the calculus, which is to be mentioned immediately; not perhaps as unimportant in itself, but in order to free the mechanism of the calculus for the present from a tedious complication. We must not require everything of mathematical psychology, but we ought to

be thankful if only the possibility of regular progress opens out at all, where hitherto neither way nor path was visible.

Further, in order to perfect our knowledge of different dispositions, we must consider from a new point of view the physiological hindrance already mentioned; that is, to what degree it changes the rhythm of the presentations rising at the same time. But no further grounds of justification are required, for me now to tell you something, concerning which you have long desired more accurate information.

Please turn first to paragraph 93 in my Psychology. There you will find as an hypothesis the first fundamental idea, that two presentations (*a*) and (*b*) rise at the same time; that is, the principle that two presentations rising together can attain a higher degree of clearness, or a higher position, than in the case in which, sinking simultaneously from the unchecked original position, they are obliged to press down each other. You will also remember the cause, which is that at the general rising the sum total of the arrest[1] only gradually comes into force, whereas at the *subsidence* it is there in a complete form from the very beginning. A couple of opposing forces, which struggle upward simultaneously, set, indeed, a limit the one to the other, (the limit of the rise), which they can only approach and not overstep; and hence neither attains to the full activity which by natural strength would have been possible to it. But if we suppose both forces in full activity when they meet, they will intercept each

[1] See note on pages 116, 117.

other considerably more, just because the opposition begins at once with full vigour. But be on your guard against the common but erroneous idea of force creeping in here. You know that presentations are only active as forces, in so far as they are opposed to one another. . . .

Here it may well occur to you that the process may be very simple at the subsidence of two presentations, whereas the matter is much more involved when three of them sink at the same time, since in this case the weakest of the three may easily be cast upon the threshold of consciousness, and indeed on the statical threshold;[1] which is as much as to say, it not only disappears altogether from consciousness, but is also so absolutely asleep as to have no further influence over that which is still going on there. But you will ask: "What happens if three presentations of different strength actually do rise at the same time?" Then they oppose each other far less than at the subsidence. Will three of them, of which one had been driven on to the threshold by the others at the general subsidence, be able then to exist together, when all three simultaneously raise themselves from the threshold?

[1] Presentations which "fall asleep" immediately, because they suffer arrest through others, are said to be on the threshold of consciousness. Herbart calls this a statical threshold, if the presentation, in spite of its struggles to rise into consciousness, is made as inactive as if it did not exist, by the influence of the other presentations; it is a mechanical threshold, if the presentation works with all its strength against the arresting presentations, and although itself expelled, and its object not represented, is thus sufficiently active to bring about a peculiar state in consciousness. For Vaulting and Tapering, see Introduction, p. lxix.

This naturally presupposes that before, for some cause, all three had been completely arrested.

With some reflection we may perhaps guess what the calculation will teach us; that is, that three presentations may indeed rise together, even if the weakest possesses very little force in comparison with the other two. But soon there comes a moment when it is driven back, while the others continue to rise. And now various things may take place. Either the third, again forced into subsidence, will never, even in any length of time, be completely driven back; or this *might* happen, but does not, since it would require illimitable time. Or finally, it actually does happen, and, indeed, in quite a short time. These preliminaries must suffice. . . . .

LETTER XXIII.

Addition of the physiological hindrance to the former case—At first the weakest presentations yield to it most—First (*c*) loses, then (*b*), then (*a*)—Whilst the hindrance exerts its greatest activity against (*a*), it frees (*b*) and (*c*) from some of the pressure which (*a*) exerted on them—Thus (*b*) and (*c*) come forward, but equilibrium is not thus attained, because the stronger must again come into prominence, and by this time the nerve system generally has become unsteady,—consequently fluctuation arises, and *continuous clearness* of the strongest presentations is prevented—*Vice versâ*, restlessness, lack of thoughtfulness, etc., may often point to some defect in the nervous system, which should be dealt with rather by physical than intellectual training. Comparison of superficial and rigid minds—(i.) In the rigid, the defect lay in the lack of vaulting; and, when the hindrance was intermittent, mental poverty lay hid behind apparent versatility; in these cases reproduction of presentations is presupposed; whereas in the superficial, there is no reference to reproduction, as the defect lies in such presentations as rise of themselves, every morning, for instance, at waking; (ii.) In the rigid, we face the difficulty of the teacher in rousing the old as a starting point for the new; in the superficial it is a question of self-activity, which ends in desultory attempts instead of steady progress; (iii.) In the rigid the hindrance, in this case, acts periodically; in the superficial it is continuous; (iv.) In the rigid the vaulting is spoilt, and the rise of the adjacent presentations hindered; in the superficial the rise of opposed presentations is changed to unsteady movements.—Case in which both defects are present; the hindrance which impedes the vaulting then proves still more fatal in the region of personal activity; the *uniformly* rigid has the advantage over the apparently versatile, in that, conscious of personal limitations, he does not attempt what are to him impossibilities.

YOU shall not be detained by calculations longer than is necessary, my dear friend. You have yourself, doubtless, already thought that something of

the same kind must hold good about four, five, or more presentations as about three. All may rise at the same time, but the time of rising will for most of the weaker ones become so very short, that nothing noticeable will be left of them. On the other hand, the pressure which the presentations exercise against each other will be much diminished, as soon as the degrees of arrest are less, for the previous statement was made with reference to the greatest possible degree of arrest. Any change which the combination, complexity, or blending of the presentations may involve must be reserved for further inquiry, since we have long been aware that all images of objects, which in common life are called presentations, are constructed in an extraordinarily complex manner. Let us leave that for the present; be so good as to give me your attention now for the next point.

What will happen if that hindrance, which can be explained on physiological grounds, of which we have so often spoken already, should intrude into the process just described?

You remember that we have to imagine this strange hostile force as yielding to the pressure of the presentation process, but for this very reason as capable of exercising a stronger counter-action. At first, doubtless, the weakest of the rising presentations will give way to it the most. Thus at first (*c*) loses, then (*b*), and, lastly, (*a*) in perceptible proportion. Thus the foreign force begins to work with intense activity against (*a*), from which it suffers most. But in this way (*c*), ere long, attains free space, since now those forces by which it

was oppressed have turned against each other, and cannot right themselves again until between them the sum of arrest[1] has sunk. In so far as (*b*) is considerably inferior in strength to (*a*), it has little share in the pressing back of the hindrance, and the less it is occupied in the struggle, the sooner it can and will make use, not long after (*c*), of the free space which has appeared. So (*b*) and (*c*) come again into prominence; but equilibrium is not thus restored; the stronger forces must again make their superiority felt. However, as a rule, the nerve system itself will now have become unsteady, and this condition, after the manner of emotions, will continue some time. Without yet committing ourselves to this we will only notice how the rise of the presentations, which should approach a limit defined by the above equations, is subjected instead to fluctuation, whereby now one and now another presentation sinks and rises.

Consequently, uniform, continuous clearness of the strongest presentations cannot be expected when their rise is opposed by a foreign hindrance. And *vice versâ*, when in place of a steady thoughtfulness we perceive restless change, and especially an increase of the weaker and therefore inconstant and fugitive thoughts, then we shall recognize in the transitory character of that which ought to remain stable, the sign of a hindrance which has its seat in the organic temperament of the nervous system; a matter with which the physical training has to contend much more than the intellectual, in cases when it is at all possible to overcome it.

[1] See note on pages 116, 117.

If now physical education has done what it can, if the boy joins cheerfully in play, digests his food, grows as he ought, and in spite of all this, steady thoughtfulness is still wanting, is there nothing else at all that we can do? Shall we be content to repeat the verdict of the mothers who complain of frivolity? It is an old and very common charge, and is even heard of in cases which ought rather to be treated for melancholia.

It will now immediately occur to you that I have not given any description here of shallow minds. The discussion turned on presentations rising at the same time. In so far as this is characteristic of any mind, to that extent, at least, it possesses self-activity; and this is still the case, even if instead of peaceful equilibrium of opposed presentations, fluctuation rules among them. So with such minds there is always something to be done, even though the evil, whence their limitation springs, cannot be removed. The main point is to find out what, and how much, can still be achieved in the existing straitened circumstances: the first condition, however, is, that the evil should be clearly recognized, and properly distinguished from others which may be perhaps outwardly similar.

We have already spoken of so-called clever minds, which are at the same time very narrow. (Letter XIX.) Let us compare these with the present case. The former were akin to the rigid type, notwithstanding an appearance of versatility. We saw that the cause of the rigidity lay in the lack of vaulting, and thus in the bareness, with which, at the reproduction of older presentations through experience and environment, only that came forward which was directly recalled, without the natural surrounding of connected ideas, which in an abler mind are wont to rise, even if dimly, at the same time. Such rigidity, (we noticed), is often present in such a manner as to cause delay, and in happy moments, when much might be perceived correctly, the association is so lacking that only poor effects follow; hence there is an appearance of versatility, which conceals mental poverty; and the latter unhappily will come forth at last after much teaching and learning.

Where now lies the difference between these two cases? First, the presentations of which we are speaking are quite different in the one from what they are in the other. Here a reproduction was presupposed, whilst our formulæ in the supplement do not at all refer to any reproduction by means of new perception, but rather to such presentations as rise of themselves every morning at waking, without requiring any previous hearing or seeing. In the former we thought of difficulties which the teacher finds in instruction, if he rouses the old in order to make it a starting point for the new. Here, on the contrary, we place ourselves in view of mental self-activity—we imagine, if you like, the human being as thinking or dreaming, but perhaps also as acting, according to his own ideas; but with it we miss the thoughtfulness which ought to remain the same, and find on the other hand a fluctuation of thoughts which, if they do come forward into action, end in desultory attempts. And as for the hindrance from which both kinds of evil arise,

it is to be considered in the one case as periodically interfering, but in the other as doing so continuously.

But again, in the first case it was the vaulting which was spoilt, and it was the adjacent presentations whose collective rise was prevented. But here we speak of opposed, and possibly strongly opposed, presentations, whose simultaneous rise is not perhaps, as there, directly hindered, but is rather changed into a succession of unsteady movements. But could both kinds of defect be present at the same time? Every man who does not absolutely belong to the mentally deficient has a certain, even if only a narrow, circle of presentations in which he is self-active. If now a hindrance appear in his nerve system, which at reproduction impedes the vaulting, this very hindrance will, in personal thought and action, render much more difficult, if not impossible, the quiet review of the opposed elements, which were to be set in order. But the rigid minds, irresolute as they often are, will yet have a sort of advantage over these apparently versatile ones. He who is uniformly limited attains gradually to stability in his narrow sphere; he does not thoughtlessly attempt that which is beyond his power; he gives up trying to grasp that which he cannot retain. But often when the hindrance subsides, or is quite in abeyance, such an individual feels as if he had ability; he resolves and undertakes that which only the able can carry out, and thus complications arise of the most unpleasant kind.

LETTER XXIV.

Signs of Frivolity in physical actions—Childish restlessness not always the sign of frivolity—The phenomena of frivolity to be traced in part to physical hindrances in the psychical mechanism; hence there is danger in blaming all frivolity as immoral action, because (1) the blame may not make a proper impression; (2) all self-control is not necessarily moral, even if attained after reproofs for frivolity—The antithesis to frivolity, seen in the true æsthetic comprehension of a great work of art, *i.e.*, in the holding together of several contrasted things, which many see only in detail—This furnishes a simpler example than either true speculative or empirical perception, since the former involves a movement among the presentations, and the latter, space and time, and consequently the formation of series.

A LITTLE while ago we mentioned frivolity,—that fault with which youth is more frequently charged than any other. How is frivolity to be recognized? Ordinary teachers do not as a rule look very closely into the movement of presentations, but, generally speaking, they judge from words or actions, (words of course being merely a special kind of action), that there is a strong inclination to frivolity.

To us, on the other hand, the consideration of wavering presentations suggested the observation of not merely the inner and mental, but also of the physical actions. And thus the previous investigation will indeed open out considerably. Youth has but little reserve; the younger child, especially, says what occurs to him, and lays hold of all that he can reach.

When now there is an opportunity of carrying the inner flux of presentations into outward bodily action, the mental process is then generally protracted, so that we can perceive it as through a magnifying glass; for outside things put more or less opposition in the way, while through the process of observation the existing presentation grows stronger, and in action the progress is delayed, which the psychical mechanism was on the point of making.

Hence youth suffers itself to be drawn hither and thither in action, in inverse ratio to its possession of a quiet thoughtfulness; moreover, where there are many children, the restlessness of one communicates itself the more surely to others.

But are all children thoughtless? On the contrary, there are to be found, although rarely, those who quite early in life act deliberately in a remarkable manner, in the narrow circle of their knowledge and ability. Such are thus in a position to grasp what is manifold, without the opposition of the isolated presentations bringing about a restless change of thought.

This is a proof that the phenomena of frivolity have not their origin in the purely psychical mechanism. Otherwise, doubtless, the presentations which correspond to a certain sphere of action would play the same part in all minds, and so it might be questioned at last whether anyone could be said to act deliberately. However, we are not here considering the advantages of adult life. But as only a few human beings are born beautiful, and perhaps only a few perfectly

healthy, so it is only permitted to a few to allow their own psychical mechanism to rule with perfect freedom. If, moreover, this freedom of the mechanism from natural hindrance is mistaken for the attained freedom of the moral will, what will then come of the science of education?

Perhaps you will answer: in this matter the mistake will do no harm; for in the end the freedom of moral resolution must still be called forth against frivolous action. If, therefore, the teacher should blame frivolity as immoral action, not much harm is done: the only important matter is to strengthen moral watchfulness and self-control. Without altogether opposing this statement (for there is some truth in it), I would ask two questions. First: will the teacher make a deep impression by such blame as this? Must he not often fear that he will make bad worse by remedies applied in vain? Second: are you convinced that all self-control, including even that which is attained after frequent reproof for frivolity, is therefore necessarily moral? You will certainly not agree with this last assertion.

But enough for the present if you admit my mathematical formula, lately stated, that frivolity consists in a deviation from the regular process which such formulæ represent. Meanwhile I will not ask you to admit too much. If we drew a picture corresponding to the general concept frivolity, we should unquestionably put into it a number of other features; enough, therefore, if that deviation may be regarded as the rough sketch.

I should like to find a suitable contrast to frivolity. See if the following satisfies you: the true æsthetic comprehension of a great work of art. You know how most people look first at the detail, and not at the whole as such; you easily see there is no fairy at hand to perform a puzzling wonder, but that in the work of art lie many kinds of contrasted things, which true æsthetic perception holds together, only on condition that it remains undisturbed. We shall not require of children, with whom we read the *Odyssey*, that they abstain from being absorbed by the particulars. On the contrary, we demand sympathy for the characters and adventures described there.[1] Even so we are not surprised if, in the fairest landscape, the boy only perceives a number of towers, hills, trees, and rivers. To be sure such a boy will scarcely become an artist. Our science of education neither could nor would make him one, for it cannot overcome an organic hindrance.

[1] A leading principle in Herbartian thought is that true education must guide the pupil from the particular to the general. In this it merely emphasizes what has been taught by other great thinkers, such as Kant and Pestalozzi. "Perceptions," said the former, "without general notions are blind; general notions without perceptions are empty." And again, we read in LESSING's *Briefe*, "Only the skill to rise quickly in every emergency to universal truths makes the great mind, the true hero in virtue, the discoverer in science and art." What indeed is the leap of genius but this insight into the inner similarities which exist amid the diversities of the universe! Many had watched falling objects, many had observed the lunar progress round the earth, but it required a Newton to unite these particulars by one sublime and general law. So it is the genius of the artist which perceives unity amid variety in the picture, and the general laws of Beauty fulfilled in the details of the landscape. See also Introduction, pp. cxii., cxiii.

If you ask me why I did not mention true speculative perception[1] rather than æsthetic, I answer because the speculative involves a necessary movement in the process of presentation, whereby that which is presented, changes; and that has nothing to do with the previous remarks.

Rather might I have cited the true empirical perception, perhaps, of the skilful geographer and historian. But here space and time are involved, and consequently the formation of series and the movement of the presentation process through series. That was not then our subject, but it shall engage our attention now.

[1] By speculation Herbart means inquiry into causal relationship or reasoning. See also note to p. 9.

LETTER XXV.

The important process of construction depends on the formation of series—(1) *The normal length* of the series $a, b, c \ldots p$ extends as far as the last member (p), with which (a) can possibly blend before it is forced out of consciousness—Let P represent the reproducing term; π, π', π'', π''', etc., reproduced ones which follow: (2) *The degree of connection* between the members—If (a) sinks quickly, its remainders, left to combine with (b), (c), (d), will be smaller than if it sinks slowly; hence the result will be a poor series; the case of badly connected or "steep" series; well connected or "level" series—(3) Different kinds of series, *e.g.*: (a) Uniform in degree of combination; (b) Uniform as to the strength of individual terms; (c) Not uniform, stronger terms at the beginning or end, etc.—(4) Many series combined into one—Example: a long, difficult word repeated slowly becomes a series of vowels and consonants, though the final result, after many repetitions, appears simple—(5) Variations in reproduction according to (a) different circumstances, (b) different dispositions—(6) Periodic series, or those which repeat themselves, *e.g.*, catches, rounds, etc.—(7) Series which contain subordinate series, connected with certain prominent terms—(8) Complex series, containing side series, which do not make progress with the principal one, *e.g.*, the co-efficients in an algebraical equation—(9) Side series which proceed out like rays from one term—(10) Side series which communicate with each other—(11) Presentation complexes, wherein each element is the starting point of a series—(12) Series which pass from simple to complex—(13) Series in which one is the converse of the other, as in space relations.

WILL you laugh at the thought that I took so seriously, and even now bear in mind, your congratulations for having at last begun the investigation of the simultaneous rise of presentations? Who

knows! Your friendship would scarcely protect me from it, though your knowledge as a specialist, and your insight into the importance of the subject, might be some safeguard.

In pure mathematics a proposition is finished when it is proved: in applied mathematics, to which psychology belongs, we must first have proof how far the application reaches, and whither it leads; but perhaps nowhere is it so necessary as in psychology to investigate the whole sphere of possible cases, which a formula may include. And how urgently the Science of Education demands it of us, you know, my friend, as well as I. This brief reminder, and the request bound up with it for your attention, and at the same time your indulgence, for the still inevitable imperfection of what follows, may, for aught I care, take the place of an invocation to the nine Muses.

First of all, if it were necessary to demonstrate in one word the importance of the subject, I should not be at a loss for an expression. I should call it "construction." This word holds good of æsthetic, mathematical, and logical processes of construction, as well as of those which are empirical and purely external.[1] And though we ought not, generally speaking, to require our pupils to form anything new, they should yet spontaneously imitate that which we provide for them as a finished structure. But, in all fairness, we ought to have a complete psychological grasp of that important process of mental activity

[1] The word here is *sinnlich*, *i.e.*, perceptible by means of the senses.

called construction, before we undertake even to so much as guide it in the minds which we have to cultivate.

The simplest element of each construction is a series, for whereas in a figure, things lie involved in each other in very varied ways, in a series the complexity appears quite simple, when the place which a thing occupies can be defined by the preceding and following members. The concepts, right, left, above, below, are only closer definitions arising out of this. On this subject, if you had not known it long ago, I should have to refer you to my Psychology. Here again we cannot discuss the opposed prejudices of a former day. We must not look back but forward. Whether others may follow us or not is their own affair, and does not concern us.

The following will serve as a preliminary and logical sifting of the points of inquiry:

(1) The series already differ according to their length. If the presentation (a) is mingled with (b), less with (c), still less with (d), and so on, then let (p) be the last member with which (a) can still possibly blend, before it is forced out of consciousness. This distance from (a) to (p) we will call the normal length. Thus it appears that a series which reaches from (a) to (r) or (s) is no longer held together by (a), but through the blending of (b) or (c) or (d), and so on, with the following members. If now a series, which passes beyond the normal length, is to be reproduced in consciousness, the force of this reproduction cannot be sought in (a) only; and since we will not commit

such folly as to look for reproducing power in memory, or in any other soul faculty, we must suppose it to be in (b) or (c) or (d), and so on. Now that, indeed, is possible, but it complicates the investigation. We are considering first the reproduction of the series, only in so far as it proceeds from the first term, consequently we limit ourselves to the normal length; and in order that the difference between the first reproducing term and the reproduced ones which followed, may not escape us, we will denote the first by (P), but all the following ones by π, π', π'', π''', and so on, which symbolism will be familiar to you from psychology.

(2) The degree of connection between the terms of a series may be stronger or weaker. If (a) sank quickly in consciousness, while (b), (c), (d), and so on, were produced one after another, the remainders of (a), which had mingled with the following terms, must be found collectively smaller than when (a) sinks slowly. The series must, therefore, have turned out badly, and no mind faculty can make good the defect. But the old proverb may well occur to the teacher, "*Repetitio est mater studiorum*," for with repetition, association grows stronger amongst the terms of the series. With reference to an illustration which you will find in Section 100 of my Psychology, I will call the badly-associated series, "steep" (*steil*); that which is better connected, "level" (*flach*), and level here is a term of praise.

(3) The series may be throughout uniform or not, both as regards their degree of combination and the strength of individual terms. With those which are

not uniform the stronger terms may be either at the beginning, or at the end, or somewhere in the middle. If you will here notice the rhythm, in which a series (poetical, or even musical) is produced, you will find the stronger terms have attained their pre-eminence either through energy or through duration.

(4) Sometimes many series pass for one. That which was repeated ten times, if it include a series, must bring that series tenfold into consciousness, in which the before-mentioned varieties may occur.

For example, when your pupil is to be impressed with a long and difficult word, if he does not retain it correctly the first time, you repeat it, speaking more slowly. But now the word is a series of vowels and consonants. By means of your repetition this series forms itself in the mind of the pupil. The reproduction arising therefrom, when he has at last learnt the word, seems to you simple, whereas it is really the complex of all those reproductions which correspond to just as many perceptions of the same series.

(5) Reproduction may occur under different circumstances. It often happens that a boy seems at one time to have forgotten that which nevertheless on the next day he will know, though he has not learnt it again. Dispositions also vary very much with regard to reproduction, so that many an one who actually possesses greater intensity of presentation, outwardly appears weaker than another, in whom reproduction occurs more easily. Hence come the complaints that one who learns easily does not retain long.

(6) In order now to approach compound series we will

remind ourselves first of series which return into themselves, because either the first or one of the succeeding terms repeats itself. This takes place in everything which is to be regarded as in any sense a round or as periodic.

(7) In the case of series which are not uniform, on the other hand, some prominent terms often form and raise up a series among themselves. So in classifications, when the generic notions are co-ordinated together. The great facility which is attributed to retention by means of classification depends upon this.

(8) In complicated series one term or several terms have often a side series, whose course does not imply progress in the principal one, as in equations when the co-efficients themselves form a succession. We might think of the main statement in algebraical equations, and the compounding of the co-efficients from the roots. If you wish to follow the series which belongs to the formation of a co-efficient, so long will thought remain stationary over the power of the unknown quantity to which the co-efficient belongs. Hence a constraint is brought to bear upon the psychical mechanism which is found unpleasant, and which contributes much to that which is generally called hard and dry in the sciences.

(9) But even one and the same term may have several side series which proceed forth from it like rays, as in the history of a great state at the moment of its breaking up into many smaller ones, or the activity of a great man in different directions.

(10) The side series may communicate with each other as the radii of a circle through the cords.

(11) In complexes of presentations, (such as are all our concepts of the objects of sense), each element of the complex, (*i.e.*, each sense characteristic), may be the starting point of some series,—as for example, of changes.

(12) There may be series which begin simply, but which afterwards become complex. A burning, sulphurated thread, which at last fires a mine, may serve here as an illustration.

Lastly, there are series of which one is the converse of another, as in everything which we look upon as relating to space. Still, the previous analysis may suffice for the present, in order to point out the great variety of that over which the series structure has sway, so that the tutor, who neither knows nor cares about it, is never really conscious what he is doing, when he requires from the pupil a series formation and its reproduction.

LETTER XXVI.

FORMULÆ OF SERIES FORMATION: P=reproducing presentation; π=reproduced presentation; w=a part of π; w'=a part of π', etc.—Defective series: The members in the wrong order point to a defective blending of P with the different π's—Example: a boy listens to a list of Roman kings now attentively, now carelessly, therefore P (= Roman kings) possibly blended with π'' more than with π', consequently the reproduction appeared in reverse order; P must sink slowly whilst the remainder of it, r, r', r'', etc., follow each other in due order; but it must not sink too deeply, lest the presentation, "Roman kings," be quite forgotten before the series is finished—Lastly, if the reproduction of the series is successful, r (a remainder of P) blends with π; r' (a remainder of P) blends with π'; r'' (a remainder of P) blends with π'', etc.—In rigid minds reproduction suffers from the hindrance.

I HOPE you are not expecting that I shall now discuss one by one the separate points in the previous letters. Far be it from me. I wished to indicate a field for reflection, wherein are many things which you certainly have known some time, but which, perhaps, you have not yet thus associated together. But the mere analysis and synthesis is of no assistance beyond the usual empiricism, and therefore does not raise us above the general confession, that we do not even know why a pupil grasps one thing easily and another with difficulty, or why the one comes to a standstill here and the other there; and it is just as little clear what the teacher and educator can actually do in such a case. Now, without promising great elucidations, I can offer you an exercise for reflection

on such questions,—that is, if you have some mathematical patience left; for without this, positively no one will find an entrance into this part of the investigation.

In Section 86 of my Psychology, you see the symbols P and π used in the above-mentioned sense; that is, P is always the reproducing presentation, and π signifies the reproduced one. Suppose you ask a boy the names of the Roman kings, and he repeats the list from Romulus up to Tarquin, then the thought of the Roman kings in the mind of the boy is our P; on the other hand, Romulus, Numa, Tullus, and so on, are our π, π', π'', etc.

In the same place in the Psychology, you notice also the letter w, which signifies a part of π; in the same way w' is a part of π'; w'', a part of π'', etc. That is, the part w of π is to come into consciousness in time t, the part w' of π' in the time t', the part w'' of π'' in the time t''.

Why, then, are not all these parts equal? What determines the presentation P, that it should not permit Romulus, Numa, Tullus, etc., to advance all at once into consciousness? You are really answered by the boy who learns incorrectly and without clearness; perhaps he says: Romulus, Ancus, Tullus, Tarquinius, Numa, etc. To what does it point when he speaks thus, and what should be altered in his mind?

You have it! The defect must lie in the blending of the presentation P with the different π's. When you alluded briefly to the Roman kings, (for this defect will not easily show itself in detailed imaginative instruction in history, which is really the kind suitable for younger boys), if the boy had listened to you now with attention, and now carelessly, the presentation of a Roman king would have risen and fallen in his consciousness, among various distractions and arrests. So it might happen that not only the names, briefly mentioned, blended very little with each other, but that also a greater part of P blended with π''' than with π'', and may have combined with the latter more than with π'; and then quite naturally the reproduction appeared in reverse order.

For it is the remainders r, r', r'', etc., on which everything depends! These parts of the presentation P must follow each other in such order, as will occur if anyone hears with perfect attention the words, "the Roman kings are Romulus, Numa, Tullus . . . Tarquinius Superbus." That is, the presentation of the "Roman kings," then sinks gradually while the names are mentioned. To be sure it must not sink so deeply, as that at the end, when we speak of Tarquinius Superbus, the concept of a Roman king should have quite disappeared; for it often happens, that when we have finished a too lengthy series, the pupil no longer knows what we have been talking about.[1] For this

[1] Another example of the failure of the reproducing P to blend with the other members of the series, may be noted in badly-written essays. Instead of presenting us with certain definite leading thoughts, with which all subordinate details blend, we are forced to pass in a desultory fashion from point to point, perhaps jostle up occasionally against some brilliant idea, only to lose it again amid the crowd of the commonplace. At last the sad truth dawns on the reader that he has totally forgotten whence he set out, and that *he could not possibly reproduce what he has read.*

reason I spoke previously of a normal length, which in an example of this kind would be already much too long. But a modification must necessarily be made for the sake of those cases, wherein, if Roman kings are spoken of, Romulus occurs to the boy earlier than Numa, and the presentation of Numa finds expression before that of Tullus, and so on. And what is this modification? What is left of the presentation P is then blended.

$$r' \text{ with } \pi$$
$$r' \text{ with } \pi'$$
$$r'' \text{ with } \pi''$$

and so on, according to the formation of the series. . . .

But we will not now touch upon the more difficult calculations, which, in the Psychology, follow the passage we have quoted, rather will we seek out an easy counterpart to that formula, the analogy of which lies close at hand.

For have we not already spoken of rigid minds? In such, reproduction naturally finds a hindrance, which is generally more or less yielding. But take the most extreme case, when it cannot be made to yield at all. To be sure we must not think that therein lies a complete negation of the process of presentation, for in such a case the person in question would be actually asleep. The hindrance is only said to work thus far, that one presentation meeting another in consciousness has to bear alone the whole sum of the arrest which it causes. . . .

Letter XXVIII.

Application to Instruction—Different temperaments as regards external action—Origin of dexterity in external action to be found in regularly-formed mental series—Influences of external action on the presentation series—(i.) Alteration in the rhythm by placing the terms further apart; (ii.) Furnishing of a new observation—Example: the pupil speaks, hears his own words; another presentation requiring words presses forward—Opposition and arrest among the words, and, therefore, among the presentations which they represent—Failure of the slender thread of words to represent fully the thought structure even in the mind of the pupil—Yet the teacher's work is to draw out, test, and correct every part of the thought structure—Importance of the course of the series formation, because of its bearing on education and action generally—Although the subject of series formation as a whole includes the approach of one presentation to another, as well as the withdrawal of one to make room for successors, it is the latter or successive method, which is specially necessary to the course of the series, otherwise the presentations would overwhelm each other and disappear—Thus, writing, (by which we pass from point to point), affords aid to reckoning.

I WOULD now very willingly, my dear friend, put in a clear light for you the educational significance of the result at which we have arrived, but I proceed to the attempt with a certain amount of diffidence. Not, perhaps, as if it were hard to me to conduct you from the letters of our formulæ again into the circle of general educational thought; rather does the difficulty lie in this, that those formulæ appear to me as a treasury, whence inexhaustible riches may flow, and that I do not yet sufficiently trust my own power to make an adequate statement of a subject which

even to me is still fairly novel. For this reason do not ask for perfect order. I must be allowed to deal with that first which is most obvious, with the reservation that I may afterwards come back to statements which actually lie nearer.

Previously we have often and at length considered different temperaments and peculiarities, which at one time oppose the practical teacher as unconquerable hindrances, but at another provide advantages of which he must make use. To these peculiarities of the pupils belong unquestionably their different temperaments as regards external action. Some sit patiently, others are restless; many cannot see an object without pushing, turning, or somehow setting it in motion. Some are quiet, others talkative; some are helpless, others active, teachable, dexterous. This capacity for external action is not, as we might suppose, a simple thing, so that one could assert with brief accuracy that it was present in a certain degree or not; rather is it of varied and widely different kinds, so that one kind may be present when another is lacking. Everyone knows now that this external dexterity has a very great influence on the pupil's capacity for culture. But ought we not to be able to trace out more accurately what the state of the case actually is?

First of all it certainly occurs to you at once that the dexterity cannot be anything simply and solely external. On the contrary, hands, feet, speech organs, and all movable parts of the body are first impelled by the mind to such movement as may be regarded as intentional, and skilful with a view to something, even

though only in the lowest sense. But when anyone is unskilful he generally complains "I do not know how to begin." And what does the teacher probably answer? "I will show you the beginning, or make it for you, only try now to go on."

And you, my friend, see now at least how this is connected with what was said before. He who does not know how to begin, or how to go on, has some defect in his knowledge, and something faulty, or at least lacking, in his series culture. And if the shy boy must hesitate through fear, the reproduction of an already-formed series for the time comes to grief.

But I do not wish for the present to apply to external action, what has been said about the formation of series; rather do I speak of external action because it is something visible and striking to the eye; so that if I can perhaps connect this sufficiently palpable thing with the comparatively obscure meaning of my previous formulæ, I may get valuable assistance in bringing out that which hitherto has not been clear.

To this end we must, however, first consider what influence external action may exercise on the presentation series, through which it is set in motion. I will not speak here of the common and important change wrought in our process of presentation, as soon as we attempt to carry out that which we have planned;[1] or

[1] "Action," says Herbart in his *Science of Education*, "generates the will out of desire." By tentative actions aimed at the nearer ends, we may gradually form a presentation of a means to attain the ultimate end; thus what seemed at first a vague desire, becomes definite will. This presentation of the adequate means of gratifying

of how frequently we confess we have had experiences,[1] because things happened quite differently from what we expected. On the contrary, let us suppose external action to be always easy and successful. I only ask what influence it exercises on the course of the presentation series, even in those cases when it fails to adjust them.

The first answer doubtless is that it alters their rhythm, and places their terms farther apart, for action, as a rule, does not proceed as quickly as thought.

But this also I will set on one side, for even this is not the first important thing which interferes with the psychical mechanism.

The main point is rather this: that through action something happens which furnishes a new perception. This perception, even while it rises, is subjected to the laws of the psychical mechanism. The presentation, which is produced in perception, does not only blend at once with the already existing similar presentation, governing the action, but it is also attacked by the arrest, by means of the other presentations which are in consciousness, and thus it must immediately sink very perceptibly, as has been described in the Psychology, § 77.

desire often arises by means of a combination of presentations. For example, the general desires a victory, which at first seems so impossible, that *will* cannot arise. He reflects on certain military tactics, calculated to gain,—some one point, some another; suddenly a combination of them all opens out before him, confidence in his own ability to achieve success revives, and he *wills* to conquer.

[1] It has been an experience to us that things turned out so differently to what we expected, *i.e.*, we have seen something of "life."

Often, to be sure, action now comes to a standstill, and changing into contemplation, disappears under the influence of that which has just been produced. Then the presentation series is not very energetic as compared with the sense impression, or there is in addition great sensitiveness for the latter. (Psychology, § 94–99.)

But with further development, that which is done, changes into that which is done with; which can now no longer rouse us to activity, and close to which presses forward the presentation of that which is to be done next.

In order to consider the matter more conveniently let us take the simplest, or, for the teacher, the most common example. The pupil speaks. The word which he utters he hears. The word is now spoken, therefore another must follow it.

Here you see an action, which succeeds so easily, that the presentation of the object denoted by the word does not at all need to press forward to its full strength before the utterance follows; on the contrary, the least stirring of the thought,—provided no cause for reserve is at work,—quite suffices to rouse the tongue to full activity.

But how if the presentations, which require words, press forward too quickly to be uttered? Then the pupil cannot answer us; he is dumb, not through ignorance, but through the fulness of thought.

This reminds us of the opposition and the arrest which takes place among the words, in so far as they are partly spoken and partly heard. The first word is

thrust back by the second, the second by the third, and so on. But the presentations are bound up with the words; consequently these also feel the pressure, and must yield to each other in the same order, if not completely, still to a sufficient extent, for the series to run its course, the terms of which now appear all about the same height, since they have attained utterance. That something similar takes place in every other action is a matter of course.

But I beg you to notice that the terms only *appear* of equal height. For it does not follow from this, that in a man's thoughts there are just as few heights and depths as there are in his speech and action, and we know quite well that the opposite is true. As regards you and me, for instance,—who are both accustomed to make known our thoughts in lectures by the hour,—how badly off should we be if the slender thread of the words, which we allowed to pass our lips, represented our thought structure.

The practical teacher ought never to forget that even in the mind of his pupil, there is, and ought to be, quite a different building or web of presentations, from that which lies in the succession of the words, which it is possible to examine. But, still, every smallest part of the web must by this means be to some extent created, tested, and corrected; so that by teaching, questioning, and answering, it is drawn forth in the form of a series, to which the necessary corrections are applied. Whilst thus the *course* of the series is not by any means the most important part, and still less the whole of that which we have to take into

consideration, under the general name of series formation,—we ought, nevertheless, to attach considerable importance to the possibility of it, because it constitutes the general condition of teaching and admonition, as well as of learning and action. And it will especially strike you how closely the importance of language culture, and even of articulate speech, is connected with it.

The approach of one presentation to another belongs just as much to series formation as a whole, as the withdrawal of the earlier members to make room for succeeding ones. On the other hand, the course of the series is not possible without this withdrawal. Now an adequate account of it was not given in the Psychology; and it appears that the subject cannot be explained in a few words. For the course of series is often no purely psychical phenomenon. We saw just now how one word thrusts the next back, whereas the thoughts only unite one with another. You may remember here what increased facility writing affords to reckoning, and that mental arithmetic itself rests for the most part on the practice of imagining the numbers as if they were written. If, instead of the successive method in reckoning, the thoughts were allowed simply to accumulate, one would very soon overwhelm the other, and simply on account of the sum of their inherent arresting force, they would disappear almost completely from consciousness. But what has already been said will lead you to another observation, which I reserve for the next letter.

Letter XXIX.[1]

Opposition among themselves of the presentations which form a series—(1) Each presentation is most yielding when it has attained its maximum strength—(2) If a presentation, (through external action, speech, etc.), produces an observation corresponding to itself, it will quickly reach its maximum—(3) It will tend to sink, if a following presentation, also through external action, produces an observation which opposes the first; but this opposition will not, of course, take place if external action is lacking—(4) Effect on the series of opposition among the presentations themselves—(5) If the second presentation, through possessing higher velocity, should force the common pressure on the first, the maximum of the first must be reached sooner than was before calculated, and the second presentation will work on higher, uniting its opposition to the pressure already bearing on the first—(6) The pre-eminence of the second over the first presentation will only last till the moment when the former has attained its maximum; then the order of the series will come to an end, whilst both sink together—Practical bearing of this on Instruction: Defective methods, resulting in inopportune interruptions of the psychical mechanism; disturbance of its action by cross-questions; failure to set the pupil on the right track; possible development of stammering and hesitation.

* IT is the opposition of the presentations among themselves, which thus form a series of the different π's,[2] to which we must now direct our attention; for

[1] What has been said concerning Letter XXII., p. 148, is equally applicable to Letter XXIX. It is inserted here for the sake of those students who are familiar with Herbart's system of mathematical psychology, but the general reader is advised to omit the section enclosed in asterisks.

[2] See Letter XXV., p. 167. P there represents the reproducing term, π, π', π'', the reproduced ones in a series.

there is a short space of time during which, on account of this opposition, the preceding presentations may be driven back by those which come after. But suffer me to refer once more to what has been said.

Every presentation is most yielding at the moment when it has attained its maximum strength, for then is it least of all in a struggling condition, a state which is just the reverse of real presentation.[1] If a presentation π, through external action, speech, or the like, produces a perception corresponding to itself, it will, through it, quickly reach its maximum, raised perhaps even above that which was reckoned a maximum in previous cases, and determined by counter pressure. So much the more certainly must it sink, as soon as the following presentation, through its activity, has produced an observation in harmony with itself, which opposes the first. But the latter does not occur when external action is lacking, and it now depends on whether those conditions are still present in a sufficient degree, under which the mere opposition which lies in the presentations themselves can effect the course of the series. For it is evident that, if it be strong enough, a like effect is to be expected from it, as from the opposition among those

[1] As long as a presentation is struggling upwards, it has not attained its perfection; whereas when the maximum is reached it is in a state of rest, and is then most truly typical of the presentation process. At the same time it is then most ready to subside or yield to others, not being in a state of full activity itself. For example, when we are "trying to think" of a half-forgotten line of poetry, the presentation of the fragment of the line is in full activity; when, however, we have succeeded, and the wished-for line is in full consciousness, we are ready to think of something else.

external perceptions; on the other hand, everything does not depend on this alone, and for this reason I have said nothing about it in my former letters. . . . .

It is self-evident, that at the moment when a presentation attains its maximum, its velocity is = 0, for otherwise it would have risen higher. . . . .

What will happen, if, in accordance with earlier development, the greater energy, appearing in the higher velocity of the second presentation, forces the common pressure on the first? Then must the maximum of the first be reached sooner, and at a lower point than that before calculated; on the other hand, the second presentation will work on higher, since it overcomes the pressure better.

Moreover, the opposition of the second presentation may now combine with this pressure against the first, only we must bear in mind that both presentations necessarily suffer from this opposition, and the more severely the stronger it is.

But how long can the pre-eminence of the second presentation over the first last, whereby as the second term of the series it makes itself felt near to, or after, the first? At most, only up to that moment when it has itself attained the maximum, and then begins to sink. For then it is quite evident that it was really borne up by weaker energy, and the order in the series comes to an end, whilst both sink together.

This latter circumstance is one to which I would specially call the attention of the practical teacher, who only too easily forgets how soon the tide on which he would launch begins to ebb.*

You know, my dear friend, that my official position has given me opportunity of observing the methods of many teachers, and especially of younger ones. I will not speak here of the faults which are usually committed in continuous lectures, I will only mention those which appear when it is a question of starting the pupil well in his work, and supporting and helping him in it, even as often occurs in translation or arithmetic. It is here I have so often noticed how little, teachers generally comprehend the psychical mechanism, to the activity of which they ought to attach the greatest importance. For whereas they ought to be of assistance, they are really in the habit of disturbing its action, now with repetition, now by correction without urgent need, often with cross-questions and exhibitions of bad temper; at another time, they do not even so much as take pains to start the mechanism in the right way, but allow the pupil to needlessly worry himself about matters which he really cannot guess, and does not know. All this shows that they have no conception of the rhythm in which a presentation series can develop, and which should be treated with the utmost care. Hence the habit of hesitating and stammering,—an annoyance both to themselves and others,—has often attacked not only whole classes, but even entire schools, from the lowest to the highest forms, and has had such sway that intelligent reading and explanation, or the immediate comprehension of the whole of what is read, is not to be thought of. If only there were some idea that a psychical mechanism existed at all, which has

its own peculiar velocity and definite rhythm, wherein alone it can proceed easily; if it were but recognized that the time lost and wasted by inopportune interruptions and lack of assistance cannot be made up, since when once the presentations have lapsed into general subsidence, reproduction for the time being can scarcely be restored to an adequate activity; if only proper attention were paid to the lessons, which anyone who is willing to learn may deduce from experience—then many an awkwardness between teacher and pupil, which now causes annoyance to both, would disappear of its own accord, and many a school subject, which is now considered too difficult, could quite easily be so treated as to produce its effect soon enough. However, it was not yet our intention to draw up practical rules; rather did we wish to examine the capacity for cultivation in the pupil, with regard first to natural temperament. Let us turn back to this.

Part II.

ACQUIRED DIFFERENCES.

Letter XXX.

Résumé of the preceding letters.—The effect of a physiological hindrance in destroying a series, and causing all the presentations to be driven out of consciousness—Example of this in naturally dull boys—Reproduction often fails in the observation of anything not quite to their taste, or anything adhering to connecting links established earlier, such as the words of a foreign language—The foreign words form a series each attached to a word of the mother tongue; hence the serious nature of the loss if the latter should be defective—Importance of progress in language, due partly to its intimate connection with external action—Importance of basing all instruction on experience and intercourse, *i.e.*, on the leading presentations (*P's*) already in the mind of the child—(i.) The new information to be afterwards reproduced (π, π', π'') must not be too great in quantity, in proportion to the old to which it is to be attached (*P*); hence the evils of learning foreign languages when the knowledge of the mother tongue is imperfect—(ii.) The importance of establishing first certain strong points of support in the child's mind, to which small portions of the new information may be attached; these should be combined with the largest possible quantities of the old, the series not being too long, lest the leading presentation *P* should have sunk too deep; the arrest among the presentations themselves must not be too strong—Mistakes of unskilful tutors, especially in failing to make clear leading points—Necessity of using the bodily activities of the child, especially in the earlier stages of development.

WE proceeded first with the supposition of complete rigidity in that which counteracts the rising reproduction of a series. Such a rigidity cannot arise from the presentations just then in consciousness taken

by themselves; they are always yielding to a certain extent, and the opposition, originating in them, only gradually becomes strong against that which is reproduced in consciousness. But if a hindrance of a physiological kind is added, then it can easily be understood that the existing presentations, which are, as it were, involved in it, will also be found unyielding; the sensualist, the glutton, and the person whose emotions are excited, furnish us with examples of this. We have seen now what will follow with reference to reproduction. That is, in the mathematical addenda it appears first that the reproduced presentations then approach a lower limit, and that at this boundary—and this is specially to be noticed here—they come near to each other, but in no way take their places in the form of a series. Rather would the whole mass, into which the series has now transformed itself, together with the presentation reproducing it which we called P, be driven again out of consciousness.

We see something similar happen in naturally dull boys, whenever we wish to engage their attention in subjects, of which the presentations, in them, are not yet strong enough to maintain themselves independently in consciousness. We see reproduction frequently come to grief in all learning, or even in the observation of that which is not just to their taste; in everything also which adheres to connecting links established earlier, (to such a P, for instance, as was mentioned above), which thus would necessarily come forward again with the links, if it had power to

come forward at all: the words of a foreign language, learnt with difficulty, may serve as an example of this. For what are these words? They are series of letters or speech sounds attached to a word of the mother tongue. These series must be easily and accurately reproduced in the order of the letters if we want to learn the language. Examples of a higher kind might be mentioned, of as varied a character as they are plentiful in number. I will not linger over them. But what happens if learning the mother tongue itself is a failure;—a thing which may easily take place from similar causes, for here those series, which, bound up with ideas and intuitions, form the words of the mother tongue, should be surely and accurately reproduced by means of thought. Then is lacking even the most ordinary means of assistance, viz., that from the sphere of external action, which, as we have seen (XXVIII.), renders most important service in the evolution of the series.

Therefore we cannot wonder that the teacher generally judges a boy's capacity for further culture, as well as his natural ability, in the first place, by the progress in language which he has already made. But undoubtedly, in this estimate of natural ability, the rest of external action, both as regards its aims and the dexterity displayed in it, must also be taken into account.

Further, we shall notice that our discussion of the capacity for cultivation in the pupil here passes quite naturally from innate temperament to that which depends on the use made of earlier years. For not

all series are so constructed that they can be reproduced with equal facility.

Our formulæ draw our particular attention to the relation between the quantities r and π. What does that mean? As a preliminary explanation I might say that it points to the importance of having all Instruction based on and connected with experience and intercourse, though the subject is by no means exhausted thus.[1]

If you wish to illustrate this explanation by some educational Principle, doubtless well known to you from your own practice, put the oft-mentioned reproducing presentation P (XXV., XXVI.) first, before everything else, in the pupil's circle of experience. We will hope that you will find there not only one but several excellent examples of P, otherwise we cannot effect much. All those leading presentations of the pupil, which are blended with long series of other weaker presentations, come under this heading, as well as all those which are important as centres and turning points for his other thoughts, and all those which home-sickness calls up in him if he has been long absent from home.

The above-mentioned[1] r, r', r'', and so on, are parts or remainders of those P's, and the greater the better, for it is well known that they are the real forces in reproductions. But now both formulæ and investigations teach, that the π, π', π'', etc., with which they are combined, ought not to be too great as compared with the r's; and, moreover, that in the case

[1] The relation between Instruction, Experience, and Intercourse is also worked out in HERBART's *Science of Education*. On the one hand he could not agree with Rousseau, for—"To form 'Nature-men' means to repeat if possible from the beginning the succession of evils already overcome. To narrow the sphere of teaching and warning to the immediate environment is the natural result of a man's own limitation, which neither knows what is beyond nor understands its application." (p. 81, Felkin's Translation.) Again, "Human nature, which appears to be suited for the most diverse conditions, is of so general a character that its special determination and development is entirely left to the race. The ship, constructed and arranged with highest art, that it may be able to adapt itself to every change of wind and wave, only awaits the steersman to direct it to its goal, and guide its voyages according to circumstances. We know our aim. Nature does much to aid us, and humanity has gathered much on the road she has already traversed; it is our task to join them together." (p. 136.) But on the other hand, Herbart guards himself against being supposed to undervalue Experience and Intercourse. "Who can dispense with Experience and Intercourse in education? To do so would be to dispense with daylight and content ourselves with candlelight! Fulness, strength, individual definiteness in all our presentations, practice in the application of the general, contact with the real, with the country and the age, patience with men as they are—all this must be derived from those original sources of mental life." (p. 137.)

[1] The P's here represent the leading presentations already possessed by the child. The greater their number, the richer the mental content. They constitute the apperceiving factor, for it is with parts of them (r, r', etc.) that the new knowledge (π, π', etc.) must be combined if it is ever to be reproduced. Example: If P = concept of the Roman kings, every one of the names of the kings (π, π', π'') must be combined with the concept clearly and definitely, if the series is to succeed. Again, in learning the members of the class triangle; the concept,—a three-sided figure, bounded by straight lines,—must combine with each addition to the series, right angled, obtuse, etc., the π, π', π'', etc., of the formula. This passage also shows the importance of establishing firm connections between the new knowledge and the already familiar subjects of thought. For example, the scenery round the pupil's home, especially if rich in historical associations, furnishes a valuable series of P's. Expeditions of various kinds,—geological, botanical, archæological, etc., also help materially in enlarging the store of factors for apperception.

of decreasing r's the series of the π's must not likewise decrease, but must rather grow if the reproduction is to succeed.[1]

To what does this refer? Doubtless to that instruction, which we build on experience as on a necessary

[1] As the new structure,—here the π's which represent the names of the kings,—rises into prominence, the r's, or remainders of the old presentation P (*i.e.*, the concept Roman kings) retire more into the background. The fact that this general concept is to some extent dim in consciousness should not involve the destruction of the series. The r's have done their work, and the π's ought now to increase in independent strength. As the next paragraph shows, Herbart strongly opposed that educational theory which limited the pupil to his own narrow experience. The child of the nineteenth century has a right to reap the benefits of his forefather's struggles; the heirs of the ages should not be deprived of their inheritance. Rather are they to be "led back by the life thread" of their seniors, for there is no reason why we should repeat "from the beginning the succession of evils already overcome."

In a fine though somewhat difficult passage in the *Science of Education*, on the office of a true teacher, Herbart brings this out more clearly.

"A young man who is susceptible to the charm of ideas, who has the conception of education in all its beauty and all its greatness before his eyes, and who is not afraid to resign himself for a time to numberless alternations of hope and doubt, despair and joy,—such a man can undertake the task of training up a boy in the environment of actuality to a nobler life, provided always that he possesses mental force and science to apprehend and represent this actuality as, from the point of view of humanity, only a fragment of the great whole. He will then say of his own accord, that not he, but the whole power of what humanity has felt, experienced, and thought, is the true and right educator, to which the boy is entitled, and that the teacher is given to him merely that he may help him by intelligent interpretation and elevating companionship. Thus to present the whole treasure of accumulated research in a concentrated form to the youthful generation is the highest service which mankind at any period of its existence can render to its successors, be it as teaching or as warning."

foundation. Thus, for example, instruction in foreign languages pre-supposes, above everything, a great familiarity with the mother tongue, if such fatal confusion is not to arise as is found among children, who chatter Low German and High German, or French and German mixed up together, before they possess a proper knowledge of their native language; or, as I once found in a young Englishman, who, having been placed as a child in a German school, learnt there the very worst German, and, in the meantime, almost forgot his English; so that, finally, he could not be instructed in any language, until, by special care, his English had been partially set right.

But our consideration goes further.[1] It tells us that, generally, whenever it is a question of enlarging the circle of thought, *i.e.*, of learning in the widest sense of the word, certain strong points of support must be

[1] Herbart is here emphasizing certain important points in his doctrine of apperception, when especially applied to the reproduction of a series. An example may make this clearer. We wish a class to learn the succession of events, which took place during the reign of Edward VI. These are represented by the π, π', π'' of the formula. What can we find to serve as our series of P's, that is, our series of leading presentations, already possessed by the children, which shall serve as "strong points of support," and with which we must combine the new information? Everything here of course depends on the teacher's knowledge of his pupil's circle of thought; still, with a fairly advanced class, some such arrangement as the following might suffice:—The problems left over from the last reign had to be solved in some way by the two successive Protectors, Somerset and Northumberland. The children will probably be eager to furnish details on such points as the social, religious, and political difficulties of the time. From their knowledge, the teacher can easily select facts, (represented in the formula by r, r', r'', etc., the remainders of the P's), which will readily combine with the new information. For

first established, and then the connecting knowledge should be added, if possible, in small quantities, though, at the same time, in the closest possible sequence, without forming long series. Why is this? Firstly, the π's should not be greater than is necessary. There should be no large masses, only small portions of the connected wholes. Secondly, they should be combined with the largest possible remainders of the leading presentations, (the *P's*); a thing which could not succeed, if these, just now called into prominence, had managed to sink during fairly long time intervals; hence the series of the π's must form a close sequence in order to combine with the largest possible r, r', r'', etc. Thirdly, the series ought not to be long, for the same reason, because the longer they are, the deeper

example, the social distress will lead up to the story of the rebellions; the religious difficulties, to the organization of the Church, and the work of Cranmer, and so on.

On three points Herbart lays special stress. First, the new information should not be too extensive; too many details are fatal to all clearness in reproduction. Second, it should be combined with as much as possible of that which is already known. Third, the different series of new events, to be combined with each of the old leading presentations, must not be too long; in this case we must not expect a *too* detailed account of the rebellions to be securely reproduced by means of our older concept, (*i.e.*, social trouble).

The danger is lest in the mass of facts, the pupil should lose sight of the leading thought; (the *P* must not have sunk too deeply). Lastly, in the building up of any series, the skill of the teacher is shown in finding a happy medium between two extremes. If the members are too sharply separated, *i.e.*, if the arrest between the presentations is too strong, the structure tends to collapse, or in this case, the connection between the events is lost sight of, through the abruptness of the thought transitions. On the other hand, if the members run into each other too much, clearness is lost, and interest flags for lack of any sharp outlines.

will the leading presentation *P* have sunk. This, however, is purely relative; for if the leading presentation *P* is firmly held in consciousness, so that it only sinks very gradually, it may serve as an adequate support for a much longer series than if the opposite is the case. Moreover, it is evident that the degrees of arrest of individual members must not be so great as to bring about the collapse of a structure which is in course of erection; however, if only the series could shape itself connectedly, its reproduction at the end of the series group, simply through arrest of single members amongst each other, would be so much the more clever; hence the latter is rather to be sought for than avoided, if it be not carried too far.[1]

Would you recognize in these characteristics any of the methods of narration proper to Homer or Herodotus? It is probably too soon yet, however, to remind you of the classical Art of Discourse; for, so far, the investigation is wanting in too many points to give a psychological account of it.

But there is certainly no lack of illustrations of the opposite case. Such arise everywhere where the earlier instruction has accumulated mistakes. How often unskilful tutors fail to connect their teaching with that which has a firm basis in the pupil's circle of

[1] There should not be such opposition among the presentations themselves, that the mind fails to form a connected whole, so that the structure collapses in isolated fragments. But, on the other hand, it would be a clever result, if the presentations were arranged to follow each like the dissolving scenes in a magic-lantern, one member overpowering and arresting the next in orderly succession.

experience. How often, without suitable analysis, do they cram in at once whole masses of unfamiliar things, or else neglect to bring their own words into a coherent flow. How often, even in their teaching, do they fail to make sufficiently sure of certain leading points, whereon that which follows may rest, and with which it may be combined; and just as often we find as the product of such treatment, incapacity for reproduction, even in clever children. The streams of knowledge have mingled confusedly with each other, and whilst we wish to make further progress, we mourn over the lack of thorough preparatory training.

But at this point the question arises, how far we have availed ourselves of the external action of the pupil, and his dexterity in it? And, first of all, how far we have induced the pupil to speak and express himself in the lesson; for it is well known that instruction which makes the pupil dumb—as in the lecture-room of a professor—is worthless in early youth. Altogether the bodily activity of the pupil should be utilized as much as possible; he himself should be made to open the book, point out, prove, construct whatever can be so treated, so long as we cannot depend upon his inner mental activity.

LETTER XXXI.

The simultaneous rise of presentations which have *blended*, as contrasted with those whose whole movement depends on what is left of a presentation reproducing them—Examples of the former are to be seen in the study of a subject, spontaneously continued; of the latter, in its immediate abandonment when lessons are finished—In all a circle of thought is eventually formed in which they are spontaneously active in feeling, thinking, and willing, and in this comparatively small circle of spontaneity, the life-principles of the individual have their basis.

AT the sight of such familiar things many an one might ask "Is that all?" "Are Psychological calculations to take us no further than to a repetition of that which every experienced practical teacher already knows?"

Would that such knew it and acted in accordance therewith! But whilst you will excuse my basing the proof of the truth of my psychological investigation on well-known educational maxims, you, my dear friend, may yet be conscious of certain more serious doubts. Is then the foregoing sketch correct? Does all reproduction depend on one single leading presentation? And is this leading presentation always to be looked upon as the first term of a series? Where, then, is the construction mentioned earlier? Does all real construction indeed proceed from one single point, like the now antiquated philosophy of Fichte?

Suppose you are inclined to question me thus, my first refuge would be easily found in the reminder that I have promised nothing of a *complete* character.

However, since both of us would willingly avoid onesidedness, and since the line of thought thus far, about series formation, might really lead to a serious defect of this kind, prepare yourself now to see something different, although still most incomplete.

The investigation of the presentations rising simultaneously, (in the supplement to XXII.), gives rise to the question whether a blending could take place among freely-rising presentations, by means of which an order and sequence of ascent might be formed in proportion to its degree. This would furnish the counterpart to the earlier conception of the subject, according to which the presentations brought into prominence do not rise freely; but whilst their own energy is hindered in its rise by arrest, their whole movement depends on what is left of a presentation reproducing them. At this point there occur to us, old practitioners in teaching, many subjects which pupils only study just so long, and so far, as they are set as lessons; in such a case the free rise of presentations, and therefore spontaneous culture and construction, are not to be thought of. But whether our pupils fare well or ill, a circle of thought is at last formed in them in which they *are* spontaneously active in feeling, thinking, and willing; whence also external action receives its determination. Even the most learned man has the greater part of his knowledge in books, or in that which, as we say, is stored in his memory, and

the thought of it only rises in him when specially called forth. But not all knowledge can thus be a mere storehouse, for if it were so, there would be no life-principle forthcoming, on which the use of the storehouse and its leading tendencies depend. We will now examine the comparatively small circle wherein spontaneity has its seat, to see whether even there series culture might take place.

LETTER XXXII.

Connection between Memory, Imagination, and Belief—Original imagination works up the old materials of Memory and ends in belief, in so far as observation and experience do not give rise to opposition—Imagination, traced back to the blended presentations which rise simultaneously, and then hover up into consciousness as if they were those of the objects of experience—Frequent determination of mental individuality by physical structure, through organic irritability giving rise to habitual emotions—Importance of the educational consideration of children's imagination: (i.) Early products of imagination dislodged by new fancies; (ii.) Importance of the child's discrimination, by means of external activity, between illusions and objects of experience; (iii.) Basis of belief in most men; a thing is perceptible to their senses, and its existence is attested with emphasis by others—Reason: Lack of imagination, capable of creating a really finished product; hence such often obtain "belief" second-hand; (iv.) All men have imagination of some kind in the circle of freely-rising presentations—In the Savage and the Egotist only such as concern very narrow interests attain free movement; (v.) Importance of observing children in very early years, not waiting till the period of youth, when the freely-rising presentations may be obscured by other activities; (vi.) Danger of the pressure of instruction preventing the formation of the images of imagination—Element of truth in the accusation, "The more school, the less imagination in an age."

AT the present moment where are we, my dear friend? I think we are in the region of Imagination and Belief, because familiar names must at least be mentioned, that we may find our bearings according to the compass of the old, so-called, empirical Psycho-

logy. We have not thus, to be sure, forsaken the sphere of memory; on the contrary, it appeared from the calculation that even the presentations which rise freely, preserve, to a great extent, an analogy with reproduction, according to the time succession of the materials of experience. And however varied, and even fastastic, the creations of imagination may often be, the new is always made up of old materials, and every such bit of material contains a quantity of the smallest fragments of presentations, which have been moved little, or not at all, from their old places, and thus indeed still bear the stamp of memory; hence Imagination, even if it were of a higher nature than memory, should not despise the important services of the latter.

But how does Belief come to be side by side with Imagination? Am I to expect objections from you at this point? On the contrary, that mythological learning, in which you are far my superior, would correct me, if I had not been warned often enough already, by calculation and educational experience, not to consider the imagination of the modern novelist as an original soul faculty. He, who intentionally, and with his eyes open, invents something, must certainly speak falsely for a long time before he succeeds in believing his own tales. On the other hand, the original imaginative power naturally ends in belief, in so far as observation and experience do not give rise to opposition. The last words of the preceding paragraph speak clearly enough, I hope, of the product, in which the continuous blending of the presentations which rise

freely often ends.[1] This product is a necessity, in so far as the circle of presentations, whence it originates, is a closed one, and the inducement to a free rise is renewed often enough, and with such variety, that anything which can arise out of the presentations furnished may do so. When this product hovers into

[1] On the difficult subject of the nature of belief we may compare Prof. Ward's views (*Encyclopædia Brit.*, Article on Psychology). He identifies Belief in its simplest form with mere apprehension; when we perceive, remember clearly, or judge without hesitation, we are laid hold of (as it were) by the fact or representation, and make no struggle against it. "There is no conflict of impressions. You cannot doubt, you see, when the sun shines. Doubt begins with the presence of rival impressions. Hence children are less critical than adults; dreamers than those awake. When we say, 'I believe A is B,' we mean that the proposition takes hold of us, impresses itself as vividly, overbears rival suggestions as convincingly as do the objects of actual perception." The question of Belief seems to resolve itself into a peculiar case of what other psychologists have called inseparable Association. James S. Mill says: "When two or more ideas have been often repeated together, and the Association has become very strong, they sometimes spring up in such close combination as not to be distinguishable." "When impressions have been so often experienced in conjunction that each of them calls up readily and instantaneously the ideas of the whole group, those ideas sometimes melt and coalesce into one another, and appear not several ideas but one." These words explain the peculiar connection between belief and decisive action. If Doubt has been shown to be crippling and disintegrating, frittering away the soul's strength in the strife of presentations, and preventing the formation of the very means of attaining desire, Belief, on the other hand, is the integrating power, welding together 'unbroken masses of presentations,' and giving almost incredible energy to action. We are reminded of the psychological truth underlying the words, "*This* is the victory which overcometh the world, even your Faith." The question of the basis and "foundations of Belief" is of course another subject of the deepest importance; here we would merely lay stress on the fact of its extraordinary power.

consciousness like the presentations of the objects of experience, it is considered a reality, even as that which is heard and seen; or, in other words, it is believed. The myths and legends of every nation form on a large scale such a complete or nearly complete product, which only partially lends itself to intentional embellishment.

But we are not now speaking of nations, but of children. There is no need to enlarge here on the necessity of religious instruction for them, and indeed for any age, just in proportion as they are in danger of creating something else idolatrous by their own imagination. No one doubts this, and you least of all.[1]

Even with little children, as soon as they can speak, we often notice with astonishment, sometimes with anxiety, how they not only talk imaginatively, as if quite removed from the circle of experience, but also even laugh and cry in their fancied joy and sorrow. For organic irritability has a share in this, and many an emotion forms for itself a channel, like a spring feeding a stream, which at last, mingled with other streams,

[1] Man is indeed innately religious. His very reason, as Herbart shows, at its highest development, leads him into the presence of a great Unknown God, "in whom we live and move and have our being." "Sympathy with the universal dependence of men is the essential natural principle of all religion. We must direct the pupil's eyes where human beings express the feelings of their limitations, and point out to him every piece of arrogance as a false and dangerous imagination of strength. . . . Above all, the mind must keep Sabbath in religion. It should turn to it for rest from all thoughts, desires, cares." *Science of Education*, pp. 171-175. It is more *natural* to be an idolater than an atheist. (See also Introduction, pp. xliv., xlv.)

grows into a mighty river. This is the source which produces and determines mental individuality through the physical structure.

However, the earliest products of the imagination do not long remain objects of belief; in healthy minds they are thrust back by experience, and almost completely dislodged by new fancies. The ten-year-old boy already speaks laughingly of what he quite believed when he was little. He does not know how often in time to come, he will become greater and wiser in his own eyes.[1] Successions of fresh imaginative structures are built one on the top of another, and not infrequently form a volcanic foundation, whose eruptions are destined to throw everything into confusion.

The danger decreases in proportion as the boy, when no longer a child, tells himself it is play, when he gives himself up to illusions, but that, on the contrary, it is a serious occupation if he is handling an object of experience, which will teach him by good or bad effects. Here we come to the highly-important reciprocal action between *inner* activity, *i.e.*, Imagination, whereby the man lays the foundation of his mental personality, and *external* activity, by which

[1] But as life advances, the wiser among us realize this fact. For mental vision strengthens, as the dim vistas of knowledge beyond and above us open out, and we realize how short and insignificant is the path already traversed. The consciousness of the limitations of the human mind and the majesty of Truth, the hope of future development and clearer light, make great men humble. It was a Newton who felt that all his life he had been as a child picking up pebbles on the shore of the great ocean of Truth; and it was a Goethe whose dying words were so significant, "*Mehr Licht.*"

he first learns that he can and must be taught. The connecting link between the two, viz., Attention, we shall soon take into closer consideration, but a glance back is first necessary at the individual limitations, which have so often before occupied us.

Most men believe that which is said to them with emphasis, and which is made perceptible to the senses. Why? The first answer is that they have no imagination which is capable of creating a finished product.[1] But what then does it mean to possess or to want Imagination? We saw in the previous letter that presentations, rising simultaneously, blend the more completely the oftener they rise, and that they construct a series-like whole the more certainly, the more they blend. The images of imagination are nothing but the representation of such blended presentations. Therefore everyone has imagination in the circle of his freely-rising presentations, if there is no hindrance there. The Imagination of the merchant may certainly be different to that of a shepherd or a soldier, but the difference in subject, in accordance with occupation, explains neither the strength nor the weakness.[2]

It is a matter of course that freely-rising presenta-

[1] If they had sufficient Imagination, Herbart seems to imply, they would not thus so readily take their beliefs second-hand. The firm blending of the presentations is thus effected for them by external influences. Their own presentation store is not sufficiently flexible to form the necessary new combinations, without external assistance.

[2] That is, imagination in different individuals naturally differs widely in range of subject, but these peculiarities in no way explain the remarkable variations as to strength and energy which likewise appear.

tions do exist. Most animals appear determined to such an extent by bodily conditions that they only rarely represent anything different from that which lies in the circle of their momentary desires and emotions. The lazy savage who idly rests as soon as he is satisfied differs from them but little. And the perfect Egotist —what other presentations attain free movement in him, beside those which concern his narrow interests? Out of these his thoughts are formed, and this is the authority which permits no unprofitable arts to thrive under its sway.[1]

If anyone desires educational observation, he must, above all, observe children in their early years, when the rule of determined Egotism has not yet established itself. At this time also they practise the least concealment, their speech and action are the immediate expression of their fancies. If impartial and accurate observations of that early age were passed on to the tutors of later years, we should then see more easily and more certainly what was to be expected from the pupil's disposition and activity. Instead of this, that observation which can be attempted by the tutor of the growing boy is for a long time concentrated on his more or less successful appropriation of the new, furnished by instruction; but it is years before freely-rising presentations are visible in the sphere of teaching and learning. The greater part even of that which is well learnt does not for a long time rise in consciousness without books and questions. That is why the pupil is quite different at home from what he is at school.

[1] That is, no arts which do not further his own narrow interests.

Please notice the beginning of the supplement to the previous letter. In the case when we can least of all trace the influence of any dominant presentations, or find any analogy with memory, where freedom and equality reign among the presentations, do we there see single ones aroused dependent on others? No, they come in a mass, and not until they are already in full consciousness do they receive form. What is then the result if any foreign pressure,—whether it be the earlier oft-mentioned physiological hindrance, or the authority of a teacher, or any social influence whatever,—should hinder the final development of the presentations, which so far have risen together in a mass? Naturally, structure will be lacking, and the individual becomes so much the less himself the more a strange form is forced upon him, or even merely provided. Let us not hide from ourselves the fact that the more there is of the school, the less there is of imagination in the age, and the more models, the less individual production. And then people complain how wearisome a thing is, which is always monotonously repeating itself.

Many have found less of the school-room with me than they expected. Why? Because I wished to leave men as much of their own individuality as possible. The more pity if under such treatment but little develops from within. But once and for all I object to that instruction which hinders rather than furthers free presentations.

Letter XXXIII.

Apperceiving attention, as the co-operation of imagination and the sensitive faculty—Reciprocal action of the presentations freely rising and sinking, when the attentive pupil responds to Instruction—Presentations which rise freely; points to notice, (1) The concept of a free rise is only relative, and is always limited by (a) the environment, (b) the physical condition—(2) To explain apperceiving attention, we presuppose objects which offer themselves to observation; by observation is here meant the perception of a certain object in preference to others, whereby it is identified as one particular thing and no other—(3) Some presentations, though nearly rising, fail to come into full consciousness, because the object which nearly reproduces them is too transitory, and its presentation runs on into a long series—If the same object, however, is again presented, apperceiving observation begins at once; the dissimilar is repressed, and the old presentation springs up freely—(4) Limitations of apperceiving observation; (a) power of preconceived ideas to fill out onesided perception; (b) complexity in the apperceiving presentation, so that the whole result depends on its structure and blendings; (c) dependence of apperceiving observation on the relation between the shape assumed by the arching, and that of the sense perception; if the former is dominant the observation may be misleading; if mental practice has already provided a correct shape for the observation, then the perception will be in accordance with reality; (d) importance of a manysided observation, one perception beginning where another ends, as when a child turns a thing over, touches it, etc.; (e) Effect of a physiological hindrance; cases approaching idiocy —lack of apperception not always to be ascribed to this, since new surroundings may at first oppress the dull boy, and teaching may improve the ignorant one.

It is absolutely necessary, (and can certainly be carried out with your consent), that we should go somewhat more deeply into Psychology than could be done in previous letters. What is more important to

the educationalist than attention? I have only just touched on this before, and then not at all on voluntary, nor even on original attention, which was the subject of my treatise, *De attentionis mensura;* the only kind discussed was that which is apperceptive, which to the practical teacher is, if possible, even more important than the other two.

But apperceiving attention is a combination of imagination, which works from within, and the sensation coming in with external impressions. In other words, there appears in it a reciprocal action between the freely-rising presentations, and those which become part of the subsidence up to complete arrest. We attend for the sake of the apperception of the object, which, left to itself, would have been forgotten. This is what happens if the attentive pupil responds to the instruction, or even to the objects of experience which are provided for him. His questions show his imagination, which, however, does not remain free, or form any finished products, but rather submits to instruction for correction and extension. Anyone but you, my friend, might object: the pupil who questions is not imagining, he is thinking. But surely you will not make such a distinction. If the thoughts of imagination could not take the form of concepts and judgments, where would Poetry be?

Before entering further into the investigation, let us consider what presentations are actually to be regarded as rising freely. Let us suppose for once an impossible case in human life, viz., that no environment of sense impressions, no emotion arising from physical con-

ditions, no foreign determination of any kind mingled with the action and counter-action of the presentations; then all the existing presentations in the completely isolated soul would gradually pass into equilibrium with each other; they would thus, as it were, try each other's strength, and the strongest, together with their associates, would become dominant. Such a thing does not happen in our present state. The bodily condition and the environment always cause definite limitation, whereby masses of presentations of various kinds are prevented from rising freely. Hence that pressure is absent, which these excluded presentations would have been able to exercise if it had only depended on their strength. Thus the store of presentations, which at present suffer from no common hindrance, now begin to move,—the greater number, which, as it were, strive to rise, attain imperceptibly a very low maximum, because the sum of arrest, arising from themselves, quickly accumulates and immediately presses them back. Nevertheless, by their united activity they have an important influence on the physical condition, which they determine in their own way even more than before. Meanwhile, something happens in the environment; the different objects which are seen and heard press more or less forward, and in their pressure are more or less fluctuating. Hence there arise transient partial arrests, within the constant general sphere of arrest which belongs to the whole environment; thus many presentations, which were on the point of rising, are detained on the mechanical threshold,[1] (you know

[1] See note on page 151.

from the Psychology what that means). But after a short time they come forward with their associates, in the rhythm which is determined by blending and complexity.

This is only the background for a picture which we have now to sketch. The first point to notice is how relative the concept of freely-rising presentations is. For the strength, presupposed as a condition of freedom, is not absolute individual strength; the circumstances, which determine it, receive a preliminary limitation from the surroundings, and the physical condition, which remove the influence of very many other presentations. Hence work succeeds in the study which is impossible in company. As you know, there are people who require dressing-gown and pipe to come to their assistance if they are to do any scientific thinking. Not quite such an extreme case is that of one of my pupils who was to have done some cubic equations in the holidays, and acknowledged on his return that it might be possible with me, but was not so in his father's house. For our purpose, *i.e.*, to explain apperceiving and conscious observation (Merken), we must presuppose objects which offer themselves to be observed. What does this observation (Bemerken) mean? As we do not wish to speak now of original attention, *i.e.*, of the possibility that our presentation process may receive additions without regard to apperception, we denote here by the word observation that activity, pressing up from within, by which a certain object is perceived in preference to all others presenting themselves at the

same time, so that the perception of it attains greater strength and longer duration,—that the object is identified as one particular thing and no other, and may often, though not always, receive praise or blame. Every change and movement is thus noticed, and consequently every variation of the object in itself is perceived with special accuracy: even comparison with other similar and earlier perceptions suggests itself. Such an observation is, moreover, favoured by previous announcement or description, whereby expectation prepares the way. All this shows that here reproduction of older and similar presentations is at work.

This reproduction might little enough satisfy the concept of keen attention, if it were merely that discussed in the Psychology, concerning which you will remember I stated, that it takes place at first in proportion to the square, or, still more often, the cube of the time. And though we may often be glad in our lessons, if even such conscious observation (Merken) accompanies our discourse, it will yet cause no intellectual sparks at which a light could be kindled.

But it is to these freely-rising presentations that we must turn. You may well ask, "Do then the presentations which rise freely wait till they are reproduced?" I answer this by another reference to the mechanical threshold. Many a presentation nearly rises, but does not actually do so, because the passing presentation, which came into consciousness from the outside or even from within, although unstable if taken singly, runs on into such a long series, that the mechanical threshold apparently

changes into a statical one. But if the familiar object, whose presentation nearly came forward, presents itself again, the process of apperceiving observation begins.

It begins, since the reproduced presentation, already perhaps called back into consciousness by previous expectation, now springs up freely, and whilst it unites with what is of a similar character, it forcibly presses back that which is dissimilar. This repression of other ideas, presenting themselves just as forcibly at the same time, is characteristic of apperceiving observation. In this consists the raising, freeing, and isolating of the object of attention, and the singling it out from among its associates and surroundings.

This accounts at once for the keen perception of the smallest change, if the object moves or deviates from its earlier appearance. It is the struggle of the reproduced presentation, with the one which arises from what is *now* presented.

However, this requires explanation. We first notice that apperceiving observation is limited, as we know from experience. The tyrant, who is vain and intoxicated by his own greatness, does not see the signs of approaching danger. The author, when he answers criticisms, shows how accurately he can pick out the few words of praise from adverse reviews, and our pupils notice the smallest token of approbation, whereas blame scarcely reaches their ears. Parents see genius in their sons, and are blind to their faults. In bygone ages people really saw the images of the gods blink and shake their heads. Apperceiving

observation indulges in such tricks in order to fill out onesided perception. If now, on the other hand, the sensitive man cannot bear the slightest doubt cast on his character; if the grammarian finds fault with every unusual expression; if the hypochondriac, even when surrounded by friends, hears all kinds of voices, which mock and insult him: what is the difference in the apperception? In any case such an one betrays that the apperceiving presentation was not simple, and that the whole result depends on its structure, together with the blendings whereon this structure rests.[1] Not only is single reproduction necessary for actual observation, but also that arching already described, which, however, we shall here have occasion to define somewhat more in detail. For the shape of the uniform arching might seldom be strictly adapted to apperceiving observation; the mathematical consideration has already led us to a more distinct idea.

We saw that the freely-rising presentations, owing to their blending, strive to shape themselves on definite lines. Now this form, originating in the inner world, is met by another independent of it, that is, the form of the sense perception. The result depends on the relation between these two. If the inner form is dominant the observation will be onesided, defective, or quite misleading. But if, on the other hand, mental practice of various kinds, which has taken place earlier, provides such and such a shape for the observation, then the outside object is perceived, distinguished, fixed, and impressed as it is in reality, and not

[1] See Introduction. Apperception, p. lxiv.

otherwise. The manysidedness of the observation is of great importance here. It consists in this, that it depends on another apperception beginning when one ends, the new one proceeding from other points of the object; as when a boy twists and turns a new thing in every direction, examines its movement, tosses it about and so on. This points also to an earlier series formation, in consequence of which a reverse is added and presupposed to the obverse, an interior to the surface, possible movements of many kinds to that which is in a stable position. The boy, if he uses his hands and senses thus, does actually the same as the chemist, who submits a new mineral to a series of tests with all the effective re-agents known to him. The whole of the difference here lies in the apperceiving masses of presentation; on the other hand, the apperception, as regards its form, is the same.

And what if the physiological hindrance, already discussed so often, comes in even here? Then we get cases which approach idiocy. Only every dull boy is not an imbecile, and every ignorant one is not therefore incapable. That may remind us of the different causes that may underlie the lack of the wished-for apperception. New surroundings are sufficient to oppress the dull boy; when he has become accustomed to them he will not only apperceive, but will even speak and act according to his apperception. The ignorant will become capable of apperception as soon as he learns properly, and by learning procures the apperceiving presentations.

Letter XXXIV.

(i.) Association of apperceiving attention with external action, *e.g.*, in shaping something, the interaction between the observation of growing work and the mental image of what it is to be; (ii.) Character of memorizing as the placing of weak presentations securely into a new combination.—Example: In language teaching new words or parts of words are presented, and fitted into sentence combinations sufficiently durable to be reproduced—Conditions of memorizing: (*a*) That the presentations should not rise too high in consciousness, lest they form a too great sum of arrest; (*b*) That they should not spread over too wide an area, lest they should lead to yielding to the "train of one's own thoughts"; (*c*) That the subjects should be treated as a matter of indifference for fear of the emotions aroused; (*d*) That they should not follow each other too slowly or too quickly; (iii.) A brilliant memory to be ascribed to some active organic co-operation, possibly by fixing the weaker presentations in certain positions, and blending them in longer series than could be effected by the psychical mechanism alone; (iv.) Uncertainty of the relation in which memory may stand to the rest of mental capacity—Memory without intellect or taste; its uselessness.

ARE we, I wonder, now approaching a psychological knowledge of the condition, in which pupils and students generally find themselves, and shall we thus be able to discern the differences which arise? Let us attempt it.

As far as circumstances permit, outward action is always bound up with apperceiving attention. The least of such actions is speech, when reasons for reserve are not at work; but running, throwing,

fetching, even sending for things, fishing and shooting also come in here, and in the same way all the delight in gymnastic exercise. The pleasure also which we take in handling any material to make it into some shape, depends on the interaction between the observation of the growing work and its progress as regards the mental image, which indicates what it is to be.

Our pupils, however, do not realize the vastness of this concept. The work and the worker mutually limit each other. If a boy is aware of his own skill he is full of activity; in cases where he feels no natural aptitude he may be just as listless. If the youths' heads are filled with hunting, or the boys' with conjuring exhibitions and tight-rope dancing, there is nothing much generally to be done with them.

And what will be the result of the lessons? Here those boys distinguish themselves who have a good memory. What is this memory?

You will say to me at once: it also is a kind of apperceiving Observation. But what kind? Is it the result of presentations which rise freely? How could that be possible in subjects which did not presuppose very considerable previous knowledge? Those are rare occasions on which the pupil brings forward questions; how could he do it with foreign languages, facts, dates, even mathematical formulæ? These latter show the case most clearly. The young man to whom I have to-day demonstrated a new proposition, understands me so perfectly that one might have thought he had apperceived it by means of freely-rising

presentations; perhaps he succeeds in repeating what has been learnt even after the lapse of some hours, but when a week has gone by he scarcely knows what it was all about. Where are the freely-rising presentations? It is fortunate if a connecting link of any such value may here and there be left for use, perhaps in the case of examples.[1]

But that activity of the pupil which we call committing to memory, which is of such importance in instruction, and which, when achieved with facility, generally constitutes the brilliant memory, cannot be explained by the presence of freely-rising presentations; rather, indeed, is it due to their absence, for they disturb memorizing. Most people are too impatient to leave time for that other reproduction, which rises up from the statical threshold, to fit weak presentations securely into a new combination. And yet this is just what constitutes committing to memory. The teacher or the book presents words which are already known singly, or, if not the whole words, parts of them, *i.e.*, isolated speech sounds. These presentations, weak in themselves, are now brought into new combinations, and the combinations must be sufficiently durable to present themselves again, unimpaired, if required. Here consciousness presents itself to us as a plain whereon grow certain little plants; high mountains and deep rivers should not be near them, unless a new energy, voluntary

[1] That is, the youth who has forgotten the Euclid proposition completely, may yet have some remnants of connecting links left in his mind, which can be used as illustrations afterwards.

attention, of which we have not yet spoken, comes to the assistance of reproduction.[1]

Committing to memory does not at all require that single presentations should rise high in consciousness. If they did this, they would form a greater sum of arrest: they would even spread over a wide area on account of their earlier associations, whereas nothing is really more detrimental to memory than yielding to the train of one's own thoughts. Even the subject must be an object of indifference, or be treated as such; the feelings which it might arouse would only do damage. Those things which are to be remembered must not follow each other too quickly, otherwise the reproduction which should meet them from within has not time to arise; they must not be given too slowly, for then the earlier sink too low before that which follows overtakes them.

In reading marvellous stories of those whose memory has been trained to great perfection, one is inclined to believe that there must be some active organic co-operation. And in what would this co-operation consist? Simply in maintaining that condition which has been brought about by the presentations. Such a view may be held without any materialistic folly.

[1] This somewhat strange metaphor seems to mean that the presence of high mountains and deep rivers, would draw attention away from the little shrubs, unless a new energy, *i.e.*, *voluntary* attention, comes also into action. Therefore, in committing to memory certain facts or words, anything of the nature of a stronger impression should be avoided. But, if the memorizing is to succeed in spite of these stronger impressions, the energy of voluntary attention will have to be called in.

The influence of the soul on the body is well known; unquestionably a definite condition of brain and nerve corresponds to every movement of presentations. If this by any effort can be fixed, the presentations, which are only weakly reproduced, will maintain themselves longer in this position, and blend in longer series than the psychical mechanism, left to itself, could have produced. *Vice versâ*, the smallest hindrance, (arising, perhaps, through excitation of the vascular system), which hinders reproduction, must necessarily destroy memory.

Experience teaches that the power of committing to memory stands in no certain relation to the other mental capacities; hence one of the first points to which educational observation is directed, is to ascertain what this relation is in given individuals; to find out the length of the series which a boy is able to retain, how much time he requires, and how soon he forgets. In this, however, we are in no wise investigating the whole of what is called memory, for not everything has to be learnt by heart in order to be for ever understood. It would be sad if Experience, Intercourse, Practice, and Interest, did not work more powerfully than that. We also deceive ourselves completely if we expect, from the mass of that which has been committed to memory, such effects as might spring from the same subjects, if suitable interest had been awakened in them. Who has not known a learning which is without intellect or taste? Yet people allow themselves to be dazzled again and again by the glitter of mere memory-knowledge.

Letter XXXV.

(i.) Review and summary of preceding letters—Distinction between (*a*) freely-rising presentations, combined with the reception of what is presented, and resulting in apperceiving attention; and (*b*) a reproduction from the statical threshold, (of weak presentations to be combined in new forms), resulting in memorizing; (ii.) Differences in pupils as regards memory and imagination—two classes: those who commit to memory easily, those who find food for imagination and belief—Reflection, Feeling, and Voluntary Attention have not yet been discussed, because too much of any of them should not be expected from children.

Necessity of distinguishing different temperaments among the pupils in the schools.

NOW, my good friend, I could almost promise myself your approval of the bird's-eye view which you have obtained, or may easily obtain, through the summary of what has been said.

The distinction between the freely-rising presentations on the one hand, and the reproduction from the statical threshold on the other, was the central point of our consideration; we combined with both the reception of what is presented. Then in the one case we found apperceiving attention with a double form, and for the most part combined with external action; but in the other, that process of committing to memory which has just been mentioned. Finally, in addition to, and beyond what is provided (by the teacher), we saw the products of Imagination of various kinds

stored up one above another and supported by belief.

If you now compare this with the opposition in youth between life out of school and in school, you will see what contrasts exist in different natures. Healthy, active boys go to school possibly without aversion, yet they would rather be out of doors, each in the sphere of his own apperceiving attention, and the external activity which is dependent on it. Material of various kinds is seized upon and shaped.[1] Tennis, playing at soldiers, hunting, riding, gymnastics,—these things invigorate the boy. He might even be inclined to imitate this or that mechanic, if the work were not too slow, and did not demand too much perseverance and accuracy. The sphere of this attention and activity is often narrow, curious, and in any case limited: to be constantly obliged to leave it, is generally felt as a hardship. But the hour for study strikes, and school work is urgent. Here two kinds of scholars may be distinguished from the rest: those who commit to memory easily, and those who find food for imagination and belief. Happy is that rare pupil who combines both.

You will now at once be conscious of a twofold omission, *i.e.*, of Reflection and Feeling; perhaps also of voluntary Attention. At the same time you can easily guess why these subjects, up to this, have remained outside the sphere of my discussion; namely, because we, as practical teachers, have long ago been

[1] That is, the apperceiving faculty seizes upon some material, no matter what, which it proceeds to shape in its own way.

warned not to demand too much of that which is really the property of the adult. Little blossoms are still green, still undeveloped, still much subject to external influences. If the teacher forget that, if he does not take his stand again most carefully on the lower steps of the ladder of culture, how will he stretch out a helping hand to youth? However, I willingly admit that those three points must yet necessarily be considered; but even now you cannot fail to see the leading thought which has really occupied me for some time. It is the question: what will become of the schools if we do not distinguish between different dispositions? Have we really an universal method of education, and should we ever hope that such a thing could be found? Or do our psychological investigations show so many cases, wherein, through unconquerable hindrances, a satisfactory training is prevented, and a suitable one delayed, that we are obliged to make the observation of different dispositions the foundation of all practical educational activity?

If it be most carefully determined how much a boy of the sixth form, the fifth, the fourth, etc., must know, do you believe that it will stand in any definite relation to the differences already discussed in imagination, apperceiving attention and memory, together with that which is the outcome of it? To be sure, if the class attainment of the fourth form were determined, the teacher of the fifth could arrange his course of study in accordance with it, no doubt. And if the final examination testifies accurately enough the knowledge of the sixth-form boy, the University Professor will

understand what is to be expected from the student. Is it really so? Is the University, forsooth, merely a continuation of school work, a higher form, as it were; and does that which is committed to memory really guarantee the self-activity of the student? Ought this really to be the case?

GLOSSARY

Affect, emotion. See note on p. 79.
Anlage, disposition, 121.
Anschauung, perception, 178, 183, 184.
Apperzeption, apperception, 209
Auffassung, mental grasp, apprehension, 90; perception, 163.
Aufmerksamkeit, attention, 209.
Begehren, desire, 113.
Begriff, concept, 3 (sometimes in a looser sense, definition, idea, &c.).
Bemerken, observation, 211, 217.
Bewusstsein, consciousness, 126, 188, &c.
Druck, pressure, 184.
Eigenthümlichkeit, peculiarity, 176.
Empfänglichkeit, sensitiveness, 179.
Erfahrung, experience, 190. See note.
Flach, level, 167.
Gedächtniss, memory, 201, 217, 220.
Gefühl, feeling, 80.
Gestaltung, construction, 165.
Glauben, belief, 201.
Gleichgewicht, equilibrium, 102.
Glied, term (in a series), 180.
Handeln, action, 176, &c.
Hebung, rising, 140.
Hemmung, arrest, 165, 179, &c.
Hemmungssumme, sum of arrest. See note on p. 116.
Irritabilität, irritability, 49. See note on p. 28.
Leichtsinn, frivolity, 159.

Memoriren, committing to memory; memorizing, 218.
Merken, observation, 211, 212, 217.
Neugier, curiosity, 113.
Phantasie, imagination, 201.
Reihe, series, 166.
Schwelle, threshold. See note on p. 151.
Seelenvermögen, mind faculty, 167.
Selbstthätigkeit, spontaneity, 199.
Senkung, sinking, 140.
Sensibilität, sensibility. See note on p. 28.
Sinnlich, perceptible by the senses. See note on p. 165.
Steifheit, rigidity, 123, 187, &c.
Steil, steep, 167.
Spekulation, speculation. See note on p. 9.
Umgang, intercourse, 190. See note.
Unterricht, instruction, 7.
Verbindung, association, 122.
Vernunft, reason, 66.
Verschmelzung, blending, fusion, 198.
Vorstellung, presentation, 116. See note.
Vegetation, vegetation, 28. See note.
Verstand, understanding, 129.
Wahrnehmung, sense perception, 113.
Wölbung, vaulting, 114. See note.
Zeitmass, time measure, 140.
Zusammenhang, interconnection, 124; association, 129, 132.
Zuspitzung, tapering, 114. See note.

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CHART I.

The life of Johann Friedrich Herbart may be divided into seven periods, which are shown in the chart by the different shading :

Period I., 1776–1794, Boyhood and school life.
,, II., 1794–1797, University life.
,, III., 1797–1800, Tutor in Switzerland.
,, IV., 1800–1802, Preparation for Academic work.
,, V., 1802–1809, Lecturer at Göttingen.
,, VI., 1809–1833, Academic work at Königsberg.
,, VII., 1833–1841, Academic work at Göttingen.

1750	1	2	3	4	5	6	7	8	9
1760	1	2	3	4	5	6	7	8	9
1770	1	2	3	4	5	BORN AT OLDENBURG	7	8	9
1780	1	2	3	4	5	6	7	8	GYMNASIUM AT OLDENBURG
1790	1	2	3	STUDENT AT JENA	5	6	TUTOR AT INTERLAKEN	8	STUDIES AT BREMEN. VISITS PESTALOZZI AT BURGDORF
PREPARATION ACADEMIC WORK	1	LECTURER AT GÖTTINGEN "Essay on Pestalozzi's How Gertrude" "A B C of Sense Perception"	3	"Aesthetic Revelation" "Critic on Pestalozzi's Methods"	5	"Science of Education" "Metaphysics" "Logic"	7	"Moral Philosophy"	PROFESSOR AT KÖNIGSBERG
1810	MARRIAGE 1	"Introd. to Philosophy"	3	4	5	"Text book of Psychology"	7	8	9
1820	1	2	3	"Psychology as a Science" Pt I	"Psychology as a Science" Pt II	6	7	"Metaphysics" Pt I	"Metaphysics" Pt II
1830	"Letters on Psychology in Education" "Encycl. of Philosophy"	2	PROF. AT GÖTTINGEN	4	"Lectures on Education"	6	7	8	9
1840	DEATH AUG. 14	2	3	4	5	6	7	8	9

CHART II.

HERBART'S ENVIRONMENT.

FRANCE GERMANY SWITZ^D ENGLAND ITALY

1710
1720
1730
1740
1750
1760
1770
1780
1790
1800
1810
1820
1830
1840
1850
1860
1870
1880
1890
1900

ROUSSEAU
Emile
VOLTAIRE
NAPOLEON
Jena
Auerstadt
Waterloo
St Helena
JACOTOT
KANT
Critic of Pure Reason
FICHTE
HEGEL
SCHELLING
HERBART
student
tutor
Königsberg
Göttingen
FROEBEL
BASEDOW
PESTALOZZI
LANCASTER
BELL
HUME
REID
BUTLER
ARNOLD
SPENCER
ROSMINI