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THE CULTURE
OF THE
OBSERVING FACULTIES
IN THE
FAMILY AND THE SCHOOL:
OR,
THINGS ABOUT HOME,
AND
How to make them Instructive to the Young.

BY WARREN BURTON,
AUTHOR OF "THE DISTRICT SCHOOL AS IT WAS," AND
"HELPS TO EDUCATION," ETC.

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A FEW WORDS

TO PARENTS, TO OLDER BROTHERS AND SISTERS, AND TO SCHOOL-TEACHERS.

FRIENDS,—*If you would go hand in hand with genial Nature, and have children learn easily and much from things all around them as instructive as books ; if you would enjoy sensible, animated, and charming talks with quick-witted and blithe companions ; if you would have the dear learners grateful long afterward for a culture peculiarly qualifying them for life's practical affairs ; if, withal, you would learn much yourselves while teaching others, please put in practice the suggestions of this little book, which is now hopefully offered to your service by the*

AUTHOR,

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SUGGESTIO

ON

THE CULTURE OF THE OBSERVING FACULTIES.

THE BEGINNING.

The beginning.

THE intellectual development of the human being begins as soon as he can open his eyes and put forth his hands—as soon as his senses come in contact with the material world. From this time onward he is continually gaining knowledge, and preparing for his future of usefulness and enjoyment. It is said that all the simple elements of knowledge and the best part of man's education are obtained before he is seven years of age. These foundations are mainly laid at home. The work is, or should be, under the supervision of the parents. This education, however, goes on, whether they at-

The beginning.

tend to it, or not. Indeed, the child will be continually educating himself. It may be truly said that the first and the most important part of man's intellectual culture, as things have been, is self-culture. Now this fostering from kindly nature, this forth-putting and forth-grasping of the infant faculties, may be greatly assisted by the parents and other older members of the family, if they did but think of it, and would but give themselves to it. Help in this primary home institution is as valuable as in the public seminaries to which the mind is afterward introduced. In the majority of homes, however, this assistance is casually and poorly rendered. It is because parents have the notion that they have nothing to do with intellectual development. This, they suppose, belongs only to the school. If a child asks a question about any thing new to his curiosity, he may be kindly answered. If he persistently puts many questions, he is patiently borne with, or perhaps hastily hushed or snapped off. The parents have not the least suspicion that, in replying to such questions, they are really exercising tutorships and professorships as im-

Knowledge without books.

portant, to say the least, as any in college. Indeed, it may be affirmed with absolute truth, that, as schools have generally been conducted, especially for little children, the education mostly stops at the school threshold; at least it begins to be exceedingly hindered, as will plainly appear.

KNOWLEDGE WITHOUT BOOKS.

Just watch a babe, and see what Nature, or rather his own divinely devised constitution, prompts him to do, and let us gather useful hints from the observation. As soon as there is any visual discernment, there is a separation of one thing from another, and the reception of distinct ideas. The little one leaves the maternal lap—for what? to work, and to get knowledge to prepare him for more and more work. He creeps about the room, not only for the pleasure of muscular action, but to seek for new objects to his curiosity; hunting for prey, if we may so speak, as food to his awakened and craving perceptions. Every thing he gets hold of is a subject of interest—a fund of entertainment; and, though his mother perhaps thinks

not of it, it is a source of most valuable instruction. We can not just yet say of him that "he who runs may read," but we may say that he who creeps can — can read the great book of perceptible and practical knowledge, which is open boundlessly before him, just as fast and far as he can get at it. Toeing and kneeling it along, he lays hold of every thing within the touch and the crook of his fingers. Why? he wants knowledge, and he will have it. First, the thing—the individual—it is separate from some other thing he perceives, and he wants to know about it as another and distinct object. The several perceptive powers then come into action: finding out the various qualities—figure, color, size, weight—as they are peculiar to each individual thing. Thus the child ranges through the room; and when, in due time he mounts to the top of his feet, he runs about the house, and soon out of doors, and then round about the premises, all the time after knowledge—knowledge of objects, qualities, operations, uses. Before the little looker and hunter is four years old, he is acquainted with hundreds of things—perhaps we might say thou-

sands. He knows nothing about the book, it may be, but is he deficient in language? By no means; objects are distinguished by names; qualities by appropriate terms. What riches of language are his, even now, though he may never have been at school, and can not read a word! All this time he has been in training for the duties and enjoyments of maturer life. He has been studying the Creator's perfect works, and unconsciously finding the steps which lead up to the Most Wise and Most Loving. He has been acquainting himself with the things also made by human hands, and examining the materials of which they are composed. This is in preparation for the time when he himself will make similar things, and will need accurate knowledge of fabrics and materials as to qualities and fitness for specific purposes.

INDUSTRIAL EFFORTS.

Nay, farther, our little beginner at life is something more than a learner—he is a maker. He is at his mechanics, too. See him putting this thing with that in rude efforts at construc-

tion! Give him a dozen blocks, and he is in absolute bliss at work; building up and pulling down, and altering his wall or house, or whatever else he may be striving to imitate. How wonderfully industrious, imitative, and constructive! He wants to do every thing he sees others do. Give him little tools fitted to his little fingers, and how delighted! How he skips off, mightily earnest, to his miniature business! Now these applications of his strength and trials of his skill are instincts and impulses to prepare him for the labors, duties, and pleasures of life. And the parents, therefore, ought all the time to sympathize with him, lending a hand now and then to help just enough and no more; catching hints from instructive Nature, and carrying out her plans far beyond what the child's unassisted mind could think of in his own behalf. But they generally do no such thing. On the contrary, they cut off the little learner from the very education he was getting, as well as he could, almost all alone. They practically declare, "Nature, you do not know as much as old usage does—usage begun in ignorance and continued in stupidity."

AN ABUSE OF NATURE.

But let us more particularly consider what is done. Oh the sad change which comes over this childhood's dream, or rather over this contented, sweet reality! This is what we do—we, grown-up and pretendedly grown-wiser people—we catch up the active, looking, learning, working, and manufacturing happy little creature, and clap him, together with twenties, thirties, forties, or fifties besides, into a wooden box, hardly, in some instances, large enough to hold them without jamming and hurting one against the other, and fasten him upon a seat, out of the reach of the many objects he has been in the midst of, and which he has been doing with as Nature intended. Yes, there we fasten him, or permit our agent, the school committee or the school-teacher, to do it; and we make him bend his neck, and fix his eyes on a plain, dry surface of paper. This he must not cut, fold, crumble, or variously shape, in the way of cultivating his manufacturing abilities. No, he must look straight down upon this metamorphosis of cotton. Were it but the rags out of

An abuse of nature.

which it came, many-shaped, many-hued, there would be something to hold the eye; but what does he see now? Words, words, words; little black, immovable images, which he can not get his fingers under. What cares he for them? Nature made him to care for things, and for words too, just so far as they stand for the things he has to do with, or can have any clear idea of. He, indeed, has an appetite, if we may so speak, for words, so far as they convey any ideas; but we do not consult this appetite, but give him the words all tasteless of meaning. When I say this, I do not mean to affirm that no explanations at all are given, but that none scarcely are given, in a large majority of schools, in immediate connection with the things to which they belong. Before the child enters school, it is always first things with him, then words. At school, it is first words, and then things—that is, if the pupil shall happen to come across them; otherwise he must go without such substantial acquaintance. Now it ought not so to be. The period lent by Nature to prepare for future industry and livelihood ought not to be so unprofitably

Profitable schooling.

and wretchedly spent. In all common sense and true philosophy, this paper-deadening, ink-blinding delusion should be put away. But what shall take its place? Realities, life, thought, action, intelligence; just what the child has been forced to leave at his own home. These might be at once brought in, and how easily and cheaply besides! Really it would not cost, on the whole, so much as school-weariness or school-hate costs, when it breaks over bounds and runs wild into mischief.

PROFITABLE SCHOOLING.

Let our primary school-rooms, and, indeed, the higher school-rooms, be well provided with shelves and boxes. Let these be filled with all sorts of productions of nature and art; specimens of all sorts of wood and metal; all kinds of cloth and leather, or any other fabric—indeed, with every thing which can well be brought into a school, and put in some proper receptacle. Let each one of these objects be a subject for examination by classes in convenient order, under the direction of the teacher. In this way the plan begun by Nature at home

would be carried out, and carried out much farther than could possibly be done at home under ordinary circumstances, as many objects would be supplied by the scholars from different families which could not be had excepting as each was found in a different home. All the perceptive faculties would here find delightful occupation, and be continually gaining in strength. Children would hardly be tired of such observation, due regard being given to their comfort and constitutional power of attention. Indeed, if rightly managed, they would enter heartily into minute examinations and comparisons of one thing with another, for there might be a healthful and spirited emulation in the exercise. It may be farther remarked, that the words designating the object in hand and its qualities and uses must come into the occasion. These the children learn just as readily as they learn at home the name of the lamp, and that it is bright and hot, or the terms belonging to any thing else. Language is not lost, but rather richly gained, by such use of the time. Furthermore, just consider the practical utility of this mode of education. What a wide and mi-

nute acquaintance is formed with things, as necessities, comforts, and luxuries in living, or as appertaining to the various affairs of business! How the quality of the material and of the manufacture of a commodity will be compared with the quality of another of the same kind; so that, by the time the child shall be old enough to leave school, he shall have run through the whole range of objects ever used in ordinary life, and be able to detect the minutest differences between one and another of the same sort! With such a training, it would be utterly impossible for manufacturer or trader to impose an inferior production on the purchaser. He must proportion his price to the quality, or keep his goods on his hands. With the ignorance of commodities in which people have been kept until grown up and obliged to purchase for themselves, how continually have they been subjected to impositions on their credulity, and to consequent annoyance of spirit! It has really taken a lifetime to obtain that practical knowledge of qualities and fitnesses which might be acquired by boys and girls before they are half through their teens,

 Profitable schooling.

were the common-sense and time-saving method above explained adopted. How also are the poor now imposed upon! They must take a second or third rate article at a very little reduction from the price of the best, to make a small saving. Yet, in the long run, theirs are the dearest purchases of all. But with such an education there could scarcely be any imposition on any body. The children of the poor in our common schools are equally learners with those of the rich. If those who are pinched for money must seek the cheapest thing, they will know exactly its comparative value, and will either have fair terms, or go to some competitor more favorable to their circumstances. Then the struggle would be among the manufacturers to see who should excel—who should go ahead in improvement—as knowing that the purchasers have been trained from very infancy to detect imperfections. Then the trader could not deceive the buyer, if the manufacturer should succeed in deceiving him. Indeed, retailer, jobber, wholesale dealer, and manufacturer must all be honest men, selling at prices exactly just; that is, ac-

 Loss and gain.

cording to quality, all other circumstances being equitably considered. If every article in a dry-goods store, or a grocery, or any other furnishing establishment were thus put to the test of minute examination and comparison, the reign of that old hollow-hearted despot whose power is in his own pretense and in the ignorance of his subjects—the reign of King Sham—would be ended.

LOSS AND GAIN.

Thus much might easily be done in our schools; yes, and money enough might be saved by the "operation," as trading people have the term, to pay the whole school-tax. Just think of it, friends! how much the majority of people actually lose out of pocket by overpaying for poor commodities! or, if price and quality do go honestly together, how much discomfort is often occasioned to the body and trouble to the spirit by these cheap imperfections! How often, too, the purse suffers in the long run by all the rips, breakages, and good-for-nothingness for which the few dollars or few cents saved are far from making up! Who

has not had occasion to feel the truth of the saying, "the cheapest things are the dearest?" Just look round your premises, and take a distinct observation of all the various necessities, comforts, luxuries, and elegances there gathered. Consider the ceaseless rush of wearables, eatables, drinkables, and burnables into your household receptacles. Then reflect that all this mixed and continuous avalanche of earthly matter is sweeping through your doors from the beginning to the end of married life, half a century perhaps and more, costing to moderate fortunes, for fifty years, fifty thousand dollars at least, and to others twice or four times that amount; and then reflect how often through this long period the twain and their dependents have been mistaken, have been cheated, or somehow have lost in their bargainings, in consequence of not having their senses about them—at least one sense wide open and sharp—that is, the sight. Yes, friends, take all these absolute realities into a clear comprehension, and then tell me whether the shelves and boxes of specimen goods at the school-room, and the careful inspection and comparison of them by

the pupils in the course of all the long years passed there, are nothing but a theorist's *whim*.

But, alas! even if you should think this commodity project not a whim, but rather an all-important requisite, it would be quite in vain as schools are now arranged. Even if parents, committees, and teachers should all be convinced of the value of the proposition, it might take no short time to get it into action. Who does not know that public improvements, however well acknowledged, are often postponed for years? Inconvenient and unhealthy school-rooms in cities, and miserable old school-houses in the country, prove this fact. The better time, however, is coming, as a few schools here and there in our country bear witness. In the mean time, good parents, what shall prevent you from going into this commodity-training at once in your own families? Indeed, your children are at it now, all by themselves—even the youngest creeper on the carpet. They only want a little assistance. Their senses are all alive and awake; their observing faculties are at their appointed work. The difficulty is, there are so many new things all

about in this freshly entered world, that they do not work long enough on one piece of matter; they are not thorough. Now what these little candidates for purchases and house-keeping want is your help and companionship in inspection. How much can be learned of real substantial knowledge even before the child shall arrive at the school-going age! Without any help at all, except his own keen senses or the eager percepts behind them, he becomes marvelously knowing at four or five years of age. Now, amid all your gettings of new things, what a constant opportunity is there for him to get an understanding of them, if you will but stop to show him! What ample time is there during the three meals a day, at the table, for the inspection of things in use upon it, and for talk about those which have been seen elsewhere! Indeed, friends, you may take your children along through your whole house-world, and over and over again, searching every thing as thoroughly as air, light, and heat search them, by the time they shall come to the edge of their youthful years. Even a seven-year-old errand-doer would have some-

thing like a mature judgment as to the bad, the better, and the best, at the store where he carries your cents, dimes, and quarters, to bring you back, as you hope, the best article to be had for the money. You would find, I can affirm without fear of contradiction, the immortal adage to be true even of a child, that "knowledge is power"—power over a store-keeper or any other money-maker. Just try the plan at once, my friends, and be convinced. You will then have something to talk about with your children, not so much to grumble about, and not so much time for grumbling. Finally, when you shall have thoroughly proved the value and the pleasure of this thing—learning in the home seminary—then try all your influence for a change in the school. Both institutions earnestly working together, be assured that all sorts of producers would have to go ahead toward perfection, and trade would be compelled to be honest. Adulteration, that vile deceiver, that sometimes awful poisoner, would be cornered, starved out, and have to give up. Old and mighty Sham, as was intimated before, would have to abdicate, and his line would perish.

Infantile activity.

Much more is yet to be said about the investigation of material things. I shall now take up the subject somewhat methodically, and in various relations. All, however, will have a bearing more or less on practical utility.

INFANTILE ACTIVITY.

The exercise of the observing faculties—object-study—begins in early infancy, prompted by the inborn instincts. Some hints appertaining to this tenderest age may be of benefit, so they are here given intermediately as we pass along.

Set it down, friends, as a fact that your children want things substantial and palpable to the senses from the time they are put on the floor from the mother's lap. They must have them at first or nothing. Let them, therefore, have what they want, but it must be judiciously and properly. The infant is pleased with that which he can grasp, and shake about, and put to his mouth. But do not, like some ignorant parents, give him what would be hurtful—a painted toy, for instance—so that he shall be in danger of sucking the paint and of

Infantile activity.

being poisoned; for the taste is one of the first avenues to infantile knowledge and enjoyment, and there is a sucking instinct. Put into his hands little hard things of different shapes, and made of ivory, or some other clean, firm substance, which may be found, perhaps, at the toy-shop; or things of solid wood, which you can carve out for yourself. When he shall fairly get upon the floor, there to be seated like a monarch on his throne, or to move about like a mechanic in his shop, provide him with little blocks, and other manageable things, to pile up and toss about. When he shall be old enough to try any thing like building with them, some one should show him how, and help his beginning. Few probably need this hint; yet some are too busy with work or amusements, or too indolent to stoop a few moments to the incipient constructor, if he is not in the way of their feet, or makes no disturbing cries. Any thing which will not harm him, and which he himself can not injure, might be within his domain or his workshop. Pray use the good sense not to let him have, even to gain a moment's quiet, what he may

Sympathy wanted.

tear or deface, such as the yet-unread newspaper or a valuable book. He must understand that he can never have such things, at least unless there are those of the kind devoted to his special use alone. You will save a great deal of time and trouble by firmness in this matter. In process of the months he becomes a traveler on all-fours about the room; he is in search of curiosities and adventures. It is now far better to keep entirely out of his reach things he must not touch, than to be ever anxiously on the watch, and perpetually stopping, thwarting, and irritating the headlong discoverer. As for things which can not be put aside, such as the stove or the fireplace, and the implements belonging to them, just let him understand that it is your will, *which can not be changed*, that he must never touch them. If necessary, just let him get, under your careful watch, an uncomfortably hot, but not a burnt finger a few times, and he will perceive why he must not go too far in that direction.

SYMPATHY WANTED.

Enough has been said, perhaps, to indicate

Sympathy wanted.

how a child may be entertained and instructed for the first year. As the second comes on, he begins to run about, and to go every where, and get at every thing, and you are put to your wits to keep him within safe bounds. He is perpetually finding new things. His brain is too weak to be kept very long at one single object, so it is a happy provision that curiosity should carry him quickly from one thing to another. Nevertheless, let him hold on to what he has as long as he will; the longer the better; for thus he will form the habit of concentrated attention, preparing him to stick to a lesson till he thoroughly learns it, or to any other pursuit in the future till he shall have accomplished it. By-and-by, when he shall discover some new and curious thing, he will run with it to you if he can, or bring you to it, to show you what a wonderful discovery he has made. He is a social being, such as he is to be, or ought to be in all his after life. It is worthy of remark, and of gratitude also to the good Creator, how children want the presence, the attention, and especially the sympathy of others. Above all things, in gratifying

Individualizing.

curiosity, and getting knowledge, and doing their little play-work, they crave sympathy. How this infantile innocence instructs far-off manhood and womanhood, and rebukes solitary and cold self-seeking! Your child wants sympathy; give it to him on the spot. He will be satisfied with a very little. Do not turn him abruptly off, unless the house should be on fire, or somebody is in agonizing pain, and must have help at once. Look as he holds up his new-found treasure: look! perhaps you will learn something yourself; for children often find out interesting items of knowledge which their parents had been utterly ignorant of before. Then dismiss the novelty-finder with a tender word and a kind look, and he will run away as happy as ever Agassiz was after having discovered and lectured about some new species of fish; for genial science delights to impart as well as to find.

INDIVIDUALIZING.

But your child has begun to talk: he calls things by name; that is, if, with all patience, you will tell him what the names are. Now

Individualizing.

or soon you may help him to cultivate into strength and acuteness the most important perceptive faculty of his mind; it is the individualizing faculty. The phrenologists name it "individuality." All qualities of material things which fit them for special uses inhere in separate individual objects. Certain qualities are combined together, and thus form a certain species of things. Now, unless the sense distinctly detects and gets hold of the thing, the qualities and uses can not be apprehended. So, one of the very first observing powers put in action is that of individuality. It is not some new quality, but some new and distinct object which the child drives at and lays hold of, and then he looks for its properties. Some have this faculty constitutionally much stronger than others. Many a boy and girl, many a man and woman, go along the roads in a country place, or the streets of a city, with their eyes half shut, or gazing about with a vacant stare, or fastened straightforward upon nothing. Others observe every thing, and gain knowledge at every step and at every turn of the eye. Such being the constitutional differ-

 The object game.

ence in children, it will be well for parents to attend early to this matter. Perhaps they themselves are deficient in this individualizing ability, and it is time that they should make up the deficiency.

THE OBJECT GAME.

As a mutual benefit and pleasure indeed, let parent and child have a sort of game at finding objects. It may be called "the thing game," or, if you please, "the object game." The wall, ceiling, window, floor, carpet, table, chairs, and so on, will probably first strike attention, and be named. Soon all the prominent objects of the room will be exhausted. Then there will be a scramble for something more. Objects will be discovered which otherwise would not have met the eye, or been thought of. The head of a nail, a shred of cloth, the minutest thread, or any particle of matter; a spot or mark on the furniture or wall, or any thing else—any thing which may bear a name, will be detected one after another; and he is the victor who shall find the minutest or most out-of-the-way thing to which may be put a name,

 The object game.

or the last thing to be found. At another time the same game may be played with objects in the yard, or any where around the house, or as far away as the sight can reach from door or window. Different apartments in the house may be made the scene of the game. If the time be the dark evening or a winter's cold day, let the trial be who shall call to recollection the most objects in some other room in the house, or in the more distant shed or barn. What an inventory will thus be made of the implements and various goods of the household! You might go farther and call to recollection what may have been noticed in a neighbor's domicile, or any where else. Thus, in mere exciting pastime, you will develop in your child and in yourselves the central and most important faculty of the intellect. You will all be trained to keep your eyes open, to look, to see, and to separate one thing from another, and thus to obtain knowledge of new and distinct things wherever you go. How keen at catching objects at a glance will you become, if you only try! You know how the sailor will discover a ship at the distant

Qualities: form.

horizon when it seems but a speck, but which the undisciplined passenger could not possibly perceive. It is because he has been for years searching the ocean's surface for any object which may break the blank uniformity, and especially for his eye's love—a sail. His success at such perception is a matter of discipline and use. Just so the sight of children might be trained to acuteness of observation among the objects on the land, if parents would set themselves and their children about it. Of course, as was intimated before, there will be differences in accomplishment according to differences in organic constitution.

QUALITIES: FORM.

Next after individualizing the world of matter around comes the learning of the forms of things. These forms can be seen by the eye in the light—can be felt by the hand in the dark: they are the objects of two senses. Soon will the child learn the ideas and the names, long and short, square and round. Indeed, you may cheaply provide blocks exhibiting all the various geometrical figures, and

Size and measurement.

the child in due time (for I would force nothing) might learn the various geometrical names. At his impressible age, it will be as easy for him to fasten on his memory a scientific term as any other word, if there is only a real visible object under it. How easily, then, will he learn whether any object his sense falls on is most like a square, triangle, cube, parallelogram, sphere, cone, pyramid, or any thing else! I need not here run through the several geometrical figures and names. You may easily get a book and look at them, and the advantage to yourselves and children will amply repay the trouble.

SIZE AND MEASUREMENT.

To proceed with qualities: next comes the size of things. The child soon perceives this, without your telling him that one object is larger or smaller than another. All he wants from you are words to designate differences in dimension. Yes, he does want, or rather need something else. He needs training to accuracy in discriminating the size and bulk of different things. Let him then have, when he shall

Size and measurement.

be old enough, a two-foot rule such as carpenters use, or the household yard-stick, marked off into feet and inches, and set him to measuring objects, whatever or wherever he pleases, bating all harm. He can find the length and breadth of the floor; the length, width, and height of furniture. Indeed, have him measure the dimensions of any thing he may put his rule against within or around the house. When he shall be old enough, furnish him with a ten-foot pole, or a rope, or an iron chain of longer stretch, and with this set him to finding the length and breadth of a field, or the distance between your own house and the next neighbor's, or the school-house, or the church. Thus your boy is becoming a surveyor before he knows it. This procedure will not be a dry task to him, unless you make it so; it will seem to make a man of him, and he can not but like it. I see no impropriety, moreover, in a sister's taking a part in such outdoor, healthy, and instructive action. Certainly all indoor exercises in such measurements will fall within the proprieties of female life, and much in the uses of it. Why not make a sort of

Size and measurement.

competition and game of this quality of size? Let a guess be made as to the length, breadth, or height of any thing, and then see who comes nearest to the fact by the measure. Your boys and girls will like it, and so will you, if you have any of your young sportiveness still left in your soul.

But some will inquire of what practical advantage can this possibly be in the future? It is replied that the active business of almost every one depends more or less on off-hand and immediate decisions based on a knowledge of things. The farmer does not often scientifically survey the portion of a field he intends to plow up for a crop. He decides on the quantity through his previous knowledge of comparative dimensions. The more accurately he can judge of lengths and breadths, the nearer will be his work to his wishes. Oftentimes this kind of judgment will come into play in respect to spaces and distances. Again, in buying and selling loads of commodities, men often guess at the dimensions, or judge by the eye without definite numerical measurement. He, therefore, who shall have the truest per-

 Weight.

ception of size will have the advantage. In the affairs of a household, moreover, such as the cutting and repairing of garments and the proportioning of quantities in cookery, the faculty of size comes into most useful requisition. Why, therefore, shall it not be assiduously developed from early life onward, to the saving of work, time, money, and comfort quite worth the while?

WEIGHT.

Now comes the quality of weight. In a most incidental, unlesson-like, and playful way you can teach your child, boy or girl, the difference between one thing and another as to weight. Let him lift first one object, then another, so that he may perceive the difference in the pressure upon his hands. You can tell him that this pressure is weight, and that one thing weighs more than another. He will learn, too, that the difference in different kinds of things does not depend on size. In due time you can show him what it does depend on. Provide some scales. These will not cost more than a few cigars, or any other luxury

 Color.

which you exhaust in the using, or some little piece of finery quickly worn out, but the scales will last for years, and outweigh their own price a thousand times over in this educational usefulness. With these let him weigh all the various commodities proper to be put into them. Do not make a task of the matter, but rather a pastime which you may join in yourselves. In the first place, let each one present take the commodity in hand, and lift it up and down, and guess how much it weighs, or rather try to form an accurate judgment about it. Then put it into the scale and see who comes nearest to the fact. Thus the little company, parents and children, not only receive entertainment, but gain knowledge, and a special faculty is disciplined for future and valuable use in the affairs of life. It would be easy to show the special application of this training to practical purposes, as in the case of the other faculties and qualities. Thinking readers can readily illustrate for themselves.

COLOR.

There is a special faculty likewise to observe

Color.

color. Such different properties of objects as form and weight must certainly require the use of a specific power; so also must color, for this differs from every other property in nature. This faculty of color may be disciplined to marvelous acuteness and enjoyment if pains are only taken with it. Of all the appearances of matter, the child earliest observes and delights in color. It is the color of the fire and the lamp which so early attracts the infant eye; so of other objects one after another. Bright and dazzling colors are his joy. As his age shall warrant, teach him the names of the various distinct colors. By the help of a book, if you need one, you may be somewhat methodical in your instructions. You can give him the names of the three primary colors, then of the secondary, and at length of all the various colors made up from these, together with the many hues, tints, and tinges which have names. Provide patterns of cloth as copies, and from these let the child get the idea and name of the distinctive colors. This will be a pleasant matter, if you choose to make it so. You may get up a color game, as you do with

Color.

the other qualities. Take any object of an indeterminate color, and see who will quickest find the standard color which it most nearly resembles. See who shall name the colors, hues, or tinges to the greatest number of objects according to some text-book. Here are the things both of art and of nature innumerable all around, with colors of all sorts; what a source of entertainment and discipline for the special faculty, if parents will but think of it, and go at the work, or rather the sport! The training of this faculty is of singular importance to those who have much to do with dry goods, and especially to ladies, who are the principal purchasers. I once knew a farmer's wife, the mother of an infant boy and of a little girl perhaps three years old at the time I have in mind. She had no help but that of her own hands and of this little bud of a maid. Among other things, she must make, mend, and alter garments. She could not well run up stairs to a closet or drawer for a piece of cloth whenever she might want it, so she had all the various fabrics of wool, cotton, or silk done up respectively in separate parcels by

 Nature.

themselves. Not only so, but, if I recollect aright, she had a subdivision of fabrics according to color. So, when in her work the mother needed a particular cloth of a particular color, she sent the little active and willing girl away up stairs for it. If she made a mistake in the selection, she had to go back and forth till she got the right little roll. The result was that the child became exceedingly discriminating in whatever belonged to cloths and their colors. She at length manifested remarkable taste as to the fitness and proprieties of dress. Her natural organization might have been favorable to such ability. Nevertheless, such an early use of the special faculty must have enhanced this prominent characteristic.

 NATURE.

In this training to the observance and enjoyment of color you will, of course, not omit the infinite variety in the aspects of nature. With sunshine and cloud, mountains, lowlands, woods, waters, and other features of nature, what a range for the eye! How it may be taught to fasten and feast on distinctive colors, and their many lights and shades!

 Flowers.

 FLOWERS.

Flowers can not possibly be omitted, for they are among the first things which attract a child's admiring gaze. These will afford almost numberless lessons in discriminating colors. They may not be so practically useful as the lessons on cloths, but the living and wonderful beauty will make the instruction far more delightful. What a taste might be nurtured, what pleasure secured and continually enhanced by a little pains! How easily might the delighted mind be carried, in due time, from the charm of the flowers into the rich botanical science which lies in their various characteristics, and in the leafy structure which they adorn!

Another special subject of notice is the various colors and hues of the different vegetable productions. What a difference between one kind of grain or grass and another! What changes of hue in the same kind as the growth proceeds! Habituate your child to watch, day after day, as the invisible Painter varies the tints, and tinges, and shades. Direct his eye to

Grains.

all the appearances presented by the vegetable realm, as there may be cloud or sunshine, breeze or calm. Thus training him to observe Nature in all her many shows, you may fit him for landscape painting; at any rate, you will prepare him better to enjoy the painter's work. But, above all, you will educate him to delight in the matchless wonders of the all-perfect Hand.

GRAINS.

Furthermore, do not let the little learner go without knowing one grain from another as to both stalk and kernel. It would be well to put each kind of grain into a little box or transparent vial for convenient future observations. It is perfectly wonderful how much music or mathematics, and many other things, are learned, or rather are pretended to be learned, while the commonest and most useful things are left out of the catalogue of requirements. I once traveled in a stage-coach with a little girl eleven years old, who was going from her home to a high-priced fashionable boarding-school fifty miles away to be educated. The

Trees.

schools close by her father's door—and they were quite good schools too—would not answer. I made some inquiries of the child as to the particulars of her course of instruction. Her studies seemed to me very remarkable, but she knew so little of them that she could make no remark about them herself. We passed a large wheat-field, goldenly rich and beautiful, for it was just before the harvest. I inquired if she knew what grain that was, and she had no more idea of it than she would have had of the vegetation of the tropics if she had been dropped suddenly down into the midst of it. She was equally ignorant of a great many other striking objects and useful things along the road. Just so thousands of our young ladies go to school, spend money, tug at lessons, and learn words, and yet hardly know what their bread is made of. At least they know not much about industrious Nature's primal and indispensable factory out in the fields.

TREES.

A word more about another kind of production. Your child learns, doubtless, very early

Trees.

which is the apple, or pear, or peach, or plum tree, and how each looks, if such be near by; and can also tell the elms from the maples standing, it may be, at the door or along the street. But it is possible, unless you take some little pains, and certainly if you put him into the school-prison early and there keep him, that he will not advance much farther in his knowledge of trees. Many a boy grows up without being able to name the trees in a neighboring wood, and of qualities he is much more ignorant still. As to girls, the majority know next to nothing about these magnificent monarchs of the vegetable kingdom. They lift themselves all alive out of the ground, stretch out their leafy sceptres, wear their foliated crowns, and there tower, waiting to be looked at, admired, and studied; and yet, with all their beauty and stateliness, how little noticed they are! Now, friends, parents, let it not be so with your children, whether sons or daughters, if you would have them truly educated. Turn their attention to the difference in form and general appearance between one species of tree and another. They will most readily learn

Leaves.

the names. Show them clearly the different parts of the tree, and teach them the words designating each part. According as the age permits, you can have much conversation with them on the philosophy of its growth and nature. I was once walking on a farm with the owner's little boy five years of age, and he pointed out to my unnoticing sight, with a keen eye and the zest of a naturalist, a peculiar characteristic of a great oak near which we passed. That father, I found, made it a pastime to show his child the things of nature, and to make explanations about them; and I am sure it was a pastime to my bright companion and instructor.

But to proceed: take the little learner into the woods, and see what new trees you can find there, and help him to a knowledge of these. If you are ignorant yourself, become his fellow-learner.

LEAVES.

One thing in particular might be done to improve the observing powers as to minuteness, and to prepare entertainment for the fu-

Leaves.

ture. The leaf of one species of tree differs from that of another. Now, let the exact difference be noticed, and at length fixed in the memory. Let a number of leaves be culled from each tree, and thoroughly dried by pressure in a book; then, when all the foliage has fallen under the cold, and the inclement winter has come, what fun and instruction too can you and your children have with the leaves! You can make it a pleasant game to see who shall best tell the name of the tree to which each kind of leaf belonged. It may take several games to associate some twenty or thirty of these little things, so variously shaped and notched, each with the name of its parent of the pasture or forest. Then, when the next vegetative season shall arrive, how sharp the young eyes will be after the different kinds of trees, each with its peculiarly-shaped foliage! The leaves of shrubs, plants, grains, and grasses might also be prepared in the same way for the winter's amusement and instruction. It would be a good plan, moreover, to provide little pieces of all sorts of wood, letting a portion of the bark remain as one of the distinct-

Minerals.

ive marks. Thus the child and yourselves, companions as docile as he, will learn the difference between the color, fibre, and strength of one species of wood and those qualities in another species. He will come to know the kind of wood from its internal look as well as from its external, with which he began. By this inspection he will be gradually acquainting himself with all the various sorts of timber which, in after life, he may have to do with either as a manufacturer or a purchaser. As things have been, this valuable knowledge has been left to a life-long experience of mistakes and losses, mingled in with whatever successes may have come.

MINERALS.

Still farther, you may lead your young looker into the mineral kingdom, and find many treasures there before saying any thing about mineralogy. You may, however, give the term if you please, and he will remember and like it at his age as well as any other word. You may incidentally teach him many mineralogical terms, only be sure to have them stand for

Minerals.

visible and real objects. What makes children dislike these matters is the taking the life out of them, if they have any, by a hard lesson-task, without any intelligible explanation. In the first place, you can easily have at hand for illustration specimens of the several metals in common use, such as iron, lead, copper, silver, gold, and other metals, and also their various combinations. Let the differences, uses, and comparative values of these substances be shown, together with their original locations and conditions in the earth. How very much you might communicate, from time to time, about these minerals, storing treasures in the mind richer and more lasting than the precious metals themselves! Again: have your child hunt for rocks which are peculiar for size, shape, color, streaks, spots, or mossy pictures. Show him the different layers of earth, disclosed by a cut through a hill where a road passes, or in a river's bank. He has eyes as well as a farmer to notice how the productive soils differ from each other, and also from the barren strata beneath. Thus, from this early date onward, he will obtain that knowledge of

Minerals.

land which is all-important to the agriculturist, and indeed is useful to any one who cultivates but a little patch of a garden. You may have a game together to see who shall find the greatest number of curious stones; or, if you are at the water-side, try who shall be most successful in spying out beautiful pebbles. This slight beginning in mineralogical science may possibly lead to a zealous and thorough continuance. Many years ago, some crystals imbedded in a lump of iron ore were pointed out to a youth.* He was so surprised at their regularity and beauty, and with the fact that they had been hidden for ages in that entirely different and shapeless mass of matter, that his eyes were afterward put on the watch for similar things. This trivial circumstance first gave the start to one of the most distinguished mineralogists of our country and the author of valuable treatises on the science. Now, if your boy shall not become eminent, he may, by your aid, become a minute observer of mineral substances. Ever afterward his eye will be sharper to detect them, and his traveling be made

* The late Francis Alger, of Boston.

Animals.

interesting by boulders in the pasture, stones by the wayside, or even gravel rattling beneath his carriage-wheels in the road.

It will be well to help your little fellow-rambler to begin a mineralogical cabinet, although this may seem too grand a phrase for the occasion. The rudest boards, and the lad's collection of curious pebbles or coarser stones to put upon them, will suffice to commence with, if there be nothing better. The very fact that a particular depository has been prepared for such things will induce effort to fill it up. Great pleasure, perhaps great usefulness, may grow in the future from such humble beginning. Should it be so, your son will thank you a thousand times for this first setting out in the science which he got from a loving parent.

ANIMALS.

If the very ground beneath the feet can be made to yield so much to the early mind, how much more the living creatures which move above it! How delighted even infants are with the pictures of animals! What a marvel, then,

Animals.

are the substantial animate creatures themselves! These move about, and have a purpose in moving, as has the child himself. They *do* something, and there is a sort of wonder what they will do next. The household dog and cat are favorites, and the animals about the yard and barn are objects of interest—all this before much instruction can be given. Nature is getting the pupil ready. In due season, and soon will this come to most, how much may be taught concerning the distinctive natures and habits of these tenants of the homestead! But the wider animal kingdom—curiosity can not reach the end of this; but it can delightedly travel on and on, if instruction will only lead it forward a little. The birds, which make the spring so gladsome and the summer fields and groves so all alive, have specific forms, colors, notes, habits, histories. Now the boys and girls might become knowing and acute in these various matters, just as well as so sharp-eyed after birds' nests, as most of them are. Indeed, young people in the country, if parents and teachers would only look to it, might make no small progress in ornithology before the cus-

Insect curiosities.

tomary school-years should be over. As for the larger four-footed creatures, there is not much chance at them, except by happening on a menagerie or a wilderness. Some of the smaller quadrupeds, however, are within easy reach. The nimble, chirruping squirrel has several habits of his own. The opening curiosity would be just as ready to learn about these as to watch his freakish motions. Even rat and mouse might be made something of scientifically. Perhaps, if more truth were known of these skulks, they would seem very much less offensive. Even snakes and worms might also have a better repute through pleasant associations. Let us save our children from a lifelong disgust, if we can.

INSECT CURIOSITIES.

Another division of the animal kingdom spreads all around the home in every direction—that of insects. How countless their species and varieties! There is no reason why the young should not be introduced into considerable acquaintance with the science of entomology, and this without hard and dry study.

Insect curiosities.

Even so long and strange a scientific term would be no burden to the fresh memory, because it would mean something. What a trifle would a microscope cost for family use! so that, when any singular little creature should be found, there might be a minute and wondering inspection.

There is a country town, one of the roughest in New England, which was favored with a clergyman who well understood the true methods of education. Among other investigations, he devoted some of his leisure to entomology. Somehow, he inspired the people of the whole town, more or less, with his spirit, and especially the young. All eyes were opened and sharpened to discover some new bug, or worm, or butterfly; and happy was the little boy or girl who could run with some prize of the kind to the minister, receive his thanks, and get a peep through his microscope at the wonders. Now, if one man could exercise such an influence over a whole town six miles square, what might not be expected of young learners, were school-teachers in their separate districts, and parents at the homestead, all to get their per-

ceptions awakened to these variously constituted tribes, amid whose creepings, flyings, buzzings, and hummings they have their own being and habitation!

FISHES AND SHELLS.

Again: there are the inhabitants of the waters. It is well known how interesting the distinguished ichthyologist, Agassiz, can make a lecture or an incidental talk about fishes. Whether older or younger hearers hang delighted on his descriptions of the finny creatures, hardly thought of before, except as now and then seen glancing within their own glassy element, or as presented by quite another sort of professor—the cook, it is anticipated that the time will come when parents will be so well informed as to show their children, in table conversation, that trout, haddock, and shad may afford mental as well as bodily nutriment. All that is needed for this purpose is a little reading, observation, and a desire to be instructive.

Some families have on hand a great variety of shells. It would be a pretty exercise for the

children, on a winter's day, to sort out these flowers of the sea according to species, size, or some other rule. Thus several of the observing faculties would be cultivated, together with pleasant occupation.

PHENOMENA OF NATURE.

We will glance again at the inanimate world. Various phenomena and processes in it may be made interesting and instructive subjects for sight and speech. Nature is passing through changes and performing operations continually all around. The child observes many of them. When they first strike his sense his curiosity is likely to be aroused, and he may ask, "Why is this or that? what makes it do so?" The loftier reflective faculties are now beginning to operate: they want to know the how, the why, and the wherefore of every thing, especially of the changes and the actions of things. The reflective faculty—the causality more than any other—prompts to questions. In answer to this, the considerate parent will reply and instruct; but many a thoughtless or busy one will turn the child off, and thus stop him from stud-

ying lessons and receiving knowledge from the greatest and truest book in the universe—the universe itself. Before long, in ordinary experience, the child becomes so entirely accustomed to these natural phenomena that he loses all curiosity about them, and asks no more questions. Thus millions live and die in the civilized world, and even in this book-blessed and school-favored land, utterly ignorant of wonderful processes going on around them all the time; whereas, had the earliest curiosity been kept up and nurtured, creation would have been an ever-opening and yet untiring volume. I once asked quite a large boy what clouds were made of. He replied, "Smoke." He had seen with his own eyes thick smoke go up into the air from all the chimneys of the neighborhood, and what could it possibly do there but be turned into clouds? Nobody had ever pointed out to him the grand round of the vapors from the ocean and all the waters of the land, up through the sky, and down to the earth, the streams, and the seas again, doing all the world good on the way. Yet that boy was at school, and might have been great at words,

remarkable before his school committee, and wonderful to his parents.

I asked that young girl in the stage-coach, before mentioned, what clouds were, and she replied, "Oh! they are great bags up in the sky; and now and then holes get torn, and down comes the rain." This was all she seemed to know about this ever-varying and manifestly beneficent part of nature. But was she not at a grand boarding-school, learning great words in big books, and at high expense? Was she not getting a fashionable education? What more could the world ask of her?

But it is not boys and girls alone who are ignorant of Nature. A large proportion of the grown-up do not understand her most common operations and appearances. There are mists, clouds, rain, hail, snow, ice, dew, fire, light, air; now how few in all the civilized world have a philosophical knowledge of these phenomena! Why is it so? One answer may be that they were not explained to the young. Their eyes at length became accustomed to them, the newness passed away, and curiosity passed away with it; so a whole lifetime is spent in igno-

Phenomena of nature.

rance of changes, combinations, and beneficent results in the wise plans and works of the adorable Creator. Could some such natural phenomenon take place but once in a hundred years, and then be advertised as a spectacle, there would be a rush of eager multitudes to behold it, and a most earnest listening to the scientific explanations. Ah! what minute processes, what mighty movements, what numberless benefits every moment! and how millions of the most privileged of our race live in the midst, and see not, and ask not how or why! Good parents, you are entreated not to suffer your own beloved children to grow up with such deadened curiosity and contented ignorance. If you have not the requisite knowledge already, become fellow-learners with them. A book or two for the purpose can be bought for what you would spend for some transient amusement or perishable luxury.*

* The treatises here named would be convenient: Tate's "First Lessons in Philosophy, or Science of Familiar Things;" Wells's "Science of Common Things;" Brewer's "Guide to the Scientific Knowledge of Things Familiar;" and Peterson's "Familiar Science, or the Scientific explanation of Common Things."

FARTHER SUGGESTIONS.

ON THE

CULTURE OF THE OBSERVING FACULTIES.

NOTE.

The following suggestions pertain to a different class of qualities—those which are not inherent in substance itself, but which are circumstantial and concomitant. These also are exceedingly important subjects of the observing faculties, and afford occasion for careful direction and discipline on the part of parents and other teachers. Those who have an earnest and conscientious interest in early and right mental culture will proceed without requiring any special invitation.

FARTHER SUGGESTIONS.

PLACE.

PLACE, OR GEOGRAPHY AT HOME.

Place, or geography at home.

A CHILD may begin geography long before he goes to school, or, rather, he may lay the sure and proper foundations for this science. When he shall have been taught the points of the compass—east, west, north, and south—then which side of the room the fire is, which the table, and in which direction are the barn and the garden; and when he shall see just how the land lies and looks close around his home, he has had an introduction to geography, or has, in a small degree, been prepared for an introduction. A beginning has been made according to the real nature of things. He understands what he asks about and what he is told. All the words have a meaning to his little mind. Now what you may do, and

Place, or geography at home.

what he will be glad of, is that you carry him on a little farther, and still farther than he would go, clearly and certainly, without your personal guidance. You must talk him along, and walk him along, until you have together surveyed the neighborhood all around, and he has obtained a positive knowledge of it—a knowledge which he feels to be his own, just as he feels that a knowledge of your doorway or sitting-room is his own. For instance, you can ask him in what direction the street runs; and, if he has not already found out, tell him, and he will soon know beyond forgetting. Have him learn who lives in the next house to his own home on the right hand and on the left; who in the second, third, and fourth, and so on. Of course, this could hardly be done in the brick-blocked, heterogeneously neighbored but unneighborly city. Children at a very early age somehow learn what are a road, a field, a pasture, a wood, a hill, and a brook. Indeed, they quickly become familiar with most of the prominent features of nature, and the words by which they are designated. They learn much by the incidental conversa-

Place, or geography at home.

tion of persons around. But you might, by a little pains, make your child a more accurate as well as far-reaching observer than he would otherwise be. Train him to notice every distinct object within the scope of his eye; all the inequalities of the surface, all the varying tints of the vegetation between the first tender green of the spring and the russet of the autumn. Every rock, every little hillock and bush, or whatever else may make a distinctly observable thing, should be a lesson to his eye. Were these diminutive traits in the landscape only magnified, they would be such geographical features as might be noticed in the big school-book; yet the fact that they seem but insignificant lines and dots, as it were, does not make them ungeographical. If geography, according to precise definition, is a description of the earth, then, when these diminutive things are described by your child, he makes real geography out of them, and it will be unspeakably more profitable than the dry, hard description of text-books, as they have generally been forced upon poor little learners, or rather word-getters. If a child be accustomed to such

minute observation, he will not, of course, overlook the more prominent marks in a prospect. But, in farther commendation, even some of these minutiae of the land's surface are important indications to the eye of science; and would you not be glad to have your son look at nature with such an eye? Wherever he shall ramble or travel, would you not have him exercise a keen, detective sight, instead of a vacant gaze?

HOW NOT TO GET LOST.

The exact understanding of the points of the compass is practically of no small importance. Many persons most easily lose the direction when they find themselves in a new place. Indeed, there are those who are absolutely so turned about that sunrise and sunset seem to have exchanged horizons, and it takes some considerable looking round and reflection to get out of the bewildering dilemma. Did all roads run at right angles toward east and west, north and south, and were all houses built square upon them, there would be no difficulty. But, transversed and crooked in all

directions as roads and streets have to be, the points of the compass are sometimes hardly found in a whole lifetime. Indeed, there are those who, after a long residence in Boston, scarcely know the direction in which runs that most familiar of all its thoroughfares, Washington Street, or which way exactly the grand and far-seen State-house faces. It seems, then, that there might be a real advantage in early and continually training the observation as to the points of the compass. At home, it can be made a matter altogether incidental, and cost no time which may be better employed. Let the cardinal points be well fixed, and it will be easy to fix in the child's mind the direction of prominent objects between, and also the course of the streets, roads, and streams.

In the exercise of individualizing objects before mentioned, as the child's understanding shall advance, it will be well to locate the various objects, in all directions, in respect to the points of the compass. There might be a little emulous pastime about it, as was recommended before in the culture of the perceptions. Why should not the parents be at the pains of pur-

How not to get lost.

chasing a compass for this very purpose? It would cost no more than many other things usually provided, but which might equally as well be done without. With this instrument, every point of direction might be exactly established. Thus it would be not only easy, but pleasant and profitable, for children to be trained, as they grow up, to know the precise point, from home as a centre, of every farm and house in the town; or, if in the city, of every prominent object there. So accustomed would the young learners become to such definite observations, that, as they should travel out to other towns now and then, they would quite readily fall into these exercises; and the turnings of a road or the windings of a stream, the house on a hill, the village church spire in the distance, might be made an additional trial for this sort of judgment. So eventually, wherever they should travel through the country, their heads would not get confused, as now so often happens. At least sunrise and sunset would keep their places, to their eye, just as Nature really puts them.

Judging of distances.

JUDGING OF DISTANCES.

In this connection, it may be well to say something more about the measure of spaces and distances. There is a great deficiency in people's minds generally as to accuracy in distance. One has only to travel in the country, and inquire of various people how far it is from one certain place to another certain place, especially if it be as to the way from one town to another, to be convinced how vague are the notions of many persons in respect to space. Why need this be so, if parents, at times, without interfering with any business, should just instruct and amuse themselves and their children in this matter? If a father and son are proceeding to a distant field to work, or to any field, why not for once take a ten-foot pole or a measuring chain, and find out the exact distance? But suppose a boy is going of an errand to a neighbor's, who lives, according to vague supposition, a quarter or half a mile off: let him take his pole or chain, and get the exact measurement, and settle it for good and all. Or, on some leisure time, let the boys, if there

are more than one, and the father with them, if he pleases, make a little pastime of the thing. This measuring entertainment may from time to time be extended to any house, or any object, or through any distance whatever, according to convenience. Thus a judgment about distances will be formed, which will come frequently into use in subsequent life.

EDUCATION ON A HILL-TOP.

Suppose, now, a pleasant day, and a little leisure at command, to afford your children, and indeed yourselves equally, some little entertainment, perchance instruction. You have already become acquainted, perhaps, with whatever is within view of home. You have observed every house, field, pasture, wood, rock, shrub, gleam of water. However, it is not necessary to wait to get all these nearest things by eye and heart. Take your little company to the highest hill-top you can conveniently reach. From this elevation can be discerned various prominent objects in towns around. Give the young observers the names of these localities, and just the direction in which they lie. There

are certain eminences, each perhaps with a name: tell them the name. There, beneath, are the valleys also. Perhaps it may be known that a considerable river has its course through some of them, or at least some brook large enough to turn the useful mill. Describe these streams, well known to your larger experience, which the children can not discern in their sunken and shaded channels. But they can see with the naked eye, as well as you, the many varied features of the landscape between the centre where they stand and the whole horizon round. Now make a game of it: see who can count the greatest number of distinct fields, or pastures, or separate pieces of woodland, and the greatest number of hills. Indeed, as to this feature, you may let the eye descend to the minutest prominences on the surface, and you will find that the sight will become amazingly sharp, and pick up the least little haystack of a hill at a distance which would not have been thought possible before. Then let the vision hunt after valleys, and any little dips and crinkles in the land's surface, in the same manner. There are cliffs, and rocks, and single trees standing in

The use.

open land, and houses and out-houses to be playfully sought likewise. Withal, take note in which direction exactly any road may run, or valley wind, or stream meander; at what point of the compass any house or hill may be situated. If there be a mountain in the distance, there will be something not only to fasten the eye, but to feed it with beauty or lift it to grandeur. Depend upon it, my friends, that you will give your children and yourselves not only a most entertaining, but a very instructive excursion. The visit to the spot may be repeated several times before all the objects of the expanse shall fall beneath inspection, or the lesson or the pleasure be exhausted. By-and-by you will climb, with your little company of observers, some loftier hill or the mountain-top, and, from such a height, advance your knowledge, possibly, to distant states.

THE USE.

Now let us consider the practical advantage of this actual observation of the earth's surface, and the various objects, natural or artificial, thereon presented. In the first place, it is evi-

The use.

dent to all that the examination of any material thing by the naked faculties is better, for all possible purposes, than the reading or studying of a description of it. It is safer, certainly, to see a farm with one's own eyes before purchasing it, than to trust to any written description. The general who has actually inspected the ground on which he is to make a campaign is far better prepared for its emergencies than if he knew the field of operations only as presented by the map. The same may be said of every practical concern. The mind must be prepared to comprehend clearly what is distant, and what can not be come at through the naked senses, by a thorough inspection of similar things within their reach.

~~These~~ intellectual facts have scarcely been thought of by the generality of parents and teachers in this time-consuming, and, we may say, heart-burdening matter of education. Now what do children, for the most part, see when they cast their eyes upon a map? Nothing but a plain surface of paper, with black lines croaking here and there, called roads and rivers, and little dots having the names of towns and cit-

Where and how arithmetic should begin.

ies, with blotches standing for mountains; and this is just about all. The brute animals would take into notice almost as much. But with this actual training of the observing powers, as has been recommended, there would appear right on the map, as it were, in definite forms and colors, seen by the vivid imagination, real hills, valleys, streams, roads, every thing just as the map was intended to represent them. That plain paper surface would seem moulded into all the various features and appearances of nature by that mind's eye which had been studying the real earth in these pleasant family excursions. Thus geographical language would be all filled and made rich with real science—the earth's facts. Pray try the experiment, and see.

NUMBER.

WHERE AND HOW ARITHMETIC SHOULD BEGIN.

AN early intellectual exercise, as has been before mentioned, is that of individualizing objects; the considering of any separable portion

Where and how arithmetic should begin.

of matter by itself. This idea of distinct things, of individualities, is one of the primitive foundations of all knowledge; and the idea, therefore, is among the earliest introduced into the mind. The exercise of individuality affords the first occasion for the action of another faculty, that of number. This, of course, must wait till words can be acquired and be applied to things. Quite an advance is usually made in a knowledge of things and their names before the idea of number is distinctly apprehended, and its appropriate terms intelligibly used. Counting, however, is an exercise which children very early perform. Friends put them to it in some playful mood, or to divert them from a trilling grief. They are asked, perhaps, how many thumbs they have, or how many fingers. In this way, or in some other as incidental, that science begins which reaches up into the sublimest mathematics. It does not take long to get through thumbs and fingers, and to the first and all-important waymark, ten in the numerical progress. So far, each term has a thing to which it is applied—a thing to be seen and felt; but beyond this, the

Where and how arithmetic should begin.

majority of children, according to observation, are taught to use the terms abstractly, to utter them without any reference to individual and observable objects. There are, no doubt, parents who, in teaching the child, are wise enough to apply, in a much greater extent, the numerals to substantial things. Sometimes children themselves, without any hint from others, will make the application. Nevertheless, the majority, I think, in their first acquisition of numerical terms, are taught the words without things, in the same manner as much of other education is conducted. Now this need not be so; it ought not to be, inasmuch as individual things are all around, from one up to hundreds, thousands, and millions; and for every numerical term there may be a positive object on which to place the eye. Thus the little learner would clearly apprehend that counting is not merely putting one new word after another, but is adding thing to things, object to objects, one after another; it is making an increase of quantities under the notice and evidence of his own immediate senses. In counting, for instance, articles of furniture in the

The counting game.

room, steps in the stairway, or doors and windows in the house, the newly-started arithmetical faculty has something real and firm to run along on, as the earlier used perceptive powers have.

In the object game, recommended in a previous section, there is an excellent opportunity at number; for the game may be not only to see who shall be quickest to find objects one after another, or who shall come to the very last thing possible to be found, but also who shall come to the largest number including these objects—who shall count the highest in the game. Besides things in the house, those abroad are sufficient for infinite counting, or until the mind even of the adult might get utterly tired and confused in its simple and straight-onward task.

THE COUNTING GAME.

It is a good plan to train children to observe the proportions between the number and the bulk of things. For instance, it will take about so many apples, or any other kind of fruit, considering size, to fill a certain measure. Let

The counting game.

the precise number be ascertained. Make a pleasant thing of the matter, and see who shall come nearest to the fact in a guess about the measure of fruit from the tree, or of potatoes, or turnips, or any other production from the ground. Though you make a pastime of your guessing and counting, the judgment thus educated will be a circumstance of positive practical gain in those affairs where gain or loss depends on accuracy of judgment.

This counting sport might be carried on in many ways, and to an indefinite extent, among brothers and sisters, enlivening the home. But the parents, especially the father, might well, in the evening's leisure, take a part in these numerical operations. Agricultural life affords a great variety of instances for this kind of mental action. Indeed, in any sort of civilized life, there must be purchases of farm products, and numerous opportunities for maturing the judgment about numbers, quantities, bulk, and, we may add, cost. There is scarcely a family which does not suffer more or less detriment in consequence of poor judgment about commodities bought and money paid. Certainly

An economical idea.

the needed ability can not be had except by experience, and this experience might as well begin as soon as nature gets ready for it, as to be deferred to a later period, when immediate occasion shall require.

AN ECONOMICAL IDEA.

One particular application of the numerical faculty is very easy and of practical importance, and must, therefore, be interesting to the young learner. Various things of household use are in sets, consisting of a definite number. For instance, so many chairs belong to a room, or there is a particular number in a set of crockery, or knives and forks, and of spoons. The child will most easily count these, and hold the number in memory. This is a matter of practical use; for, unless the number of these things is kept in mind, there may be an unheeded loss. It will be really a strengthening of the character, and a positive preparation for carefulness in the future, to give a daughter quite early a specific charge over these more losable implements. There are also other sets of things, the number of which might

An economical idea.

be obtained and held with advantage, such as napkins, towels, pillow-cases, sheets, and perhaps other kinds of furniture. By this application of the enumerative ability, you might early enlist a daughter's special interest in your goods and their safety. In this connection, moreover, she might be easily led to consider it her duty to keep them all in their proper places, in their proper order, and with all desirable nicety. This care will be a relief to yourself, mother, and a profitable discipline to her.

There is no reason why a boy also might not be trained in this numerical knowledge as to household matters. Of course, he is adequate to it equally with a sister; and, together with her, he is more particularly under the maternal care in his earlier years. It is altogether proper, and it will be beneficial for him, to learn whatever he may in company and in sympathy with sisters. All indoor knowledge, however minute, will the better qualify him for manhood and a new home of his own. Every man should have at least a general knowledge of his own household affairs, however perfect the wife may be in her adminis-

Outdoors.

tration. Now, inasmuch as a boy's home education ordinarily continues for some years, it would be altogether easy for him to become thoroughly acquainted with matters belonging to the domestic domain. It could not but be, in most cases, altogether pleasant also; as long as he is privileged with such affectionate companionship.

OUTDOORS.

There are, however, outdoor concerns in which a boy can exercise numerical accuracy and care about sets and classes of things. Let him count the fowls on the premises, get the precise number in each flock of a species, and have an eye that none are missing. So also let him know and keep in mind the exact number of cows, sheep, and their young, or whatever else of the domestic animal kind may pertain to the homestead. A sister also might very properly accompany him in sympathy and care; for thus her mind would be expanded, and, without any undue straining or task-work, would easily and agreeably acquire an initiation into that outdoor knowledge which

Ownership.

the future wife eventually might wish to have in the possessions, plans, and operations of her husband.

Some may smile at this reference to probable domestic life; but just as surely as early habits of any kind will influence the remote future for good or for evil, so surely will this sort of knowledge and carefulness affect the future economical character of the woman.

OWNERSHIP.

In this counting of furniture sets and of flocks and herds, a child's interest must naturally be quickened by the circumstance that they belong to parents, and have a certain use. This matter of ownership will draw the little heart toward them. It would be quite a different affair to put the numeric faculty to work on stones in the public road, or pebbles along a water-shore. Let it be especially considered that the idea of possession and utility will be of no small importance to the incipient arithmetician. In continuing, therefore, this sort of discipline indefinitely onward, let the exercise be as much as possible on objects of property.

Ownership.

Let there be a sort of game to see who can recollect the largest number of articles, or sorts of useful things, belonging to the house or the premises around, as they would not all be in immediate sight.

In this thorough enumeration of goods there is one practical advantage which is certainly of no small importance. It occasions the young learner to become acquainted in detail with the various commodities, and objects of possession, within and around the home. Young persons generally have but a vague and imperfect knowledge of these things. By this exercise they will get in mind an inventory of property almost as if they were making an appraisal. They will acquire a habit of exactness as to what is possessed. Besides, there will come indirectly some notion of the specific uses of things: this will be an additional advantage. How many people have a very confused idea of their own possessions! The confusion reaches and continues into their daily affairs with a quite injurious effect. Now, could an accurate apprehension as to these matters of property be made a habit of the mind from very childhood,

it would influence a whole business life. It would certainly be of no small importance in conducting the concerns of a store, especially one containing all sorts of goods, as is more generally the case in the country.

It may be objected to the plan of giving children this special idea of property and ownership that it will make them think too much of material possessions, and strengthen their affection for these things to a degree which in after life might be detrimental to the character. Such a consequence would greatly depend on the native mental constitution. No doubt some children have the love of gain so born with them, that, without counter influences, these exercises would really intensify the inherited avarice. But there is to be a moral and religious education; and if parents are as faithful in this as in the discipline pertaining to material things, any such tendency will, in general, be quite sufficiently counteracted. Let it be understood by readers, once for all, that in the present treatise there is intended no such neglect of the higher nature as will leave the lower unrestrained, or in the least degree unbalanced.

COUNTING ON INDEFINITELY.

After the class of things above referred to shall all have been gone over, the exercise may be continued on objects which excite no interest, except that they are to be enumerated one after another, each adding to the sum. With the start the young numberer gets in the way suggested, he will now be able to count to almost any extent. Let him push ahead on any thing coming handiest.

Outdoors there are, for lessons, trees in the woods, and stones in the walls. In counting the trees, it may be worth while to remark, there will incidentally arise some knowledge of species and their uses. There must necessarily be caught some glimpses of dendrology, to use a scientific term, which, as long and hard as it seems, a child would remember as well as any other word. Indeed, in touching and individualizing the stones in a wall, as he should trip alongside, what curious varietics he might discover! and thus the diverse riches of mineralogy would now begin to open on him, if not before. Within doors the learner may sit at

Counting on indefinitely.

ease; and with a measure of corn, beans, or peas, or the smaller grains, he may count on for hours, if he shall choose, and renew the operation day after day. And why should he not, if there be time and inducement? He may as well do this at home as many other quite idle things, or something at school called "education," but which amounts to nothing at all toward such end. Every grain he touches is an individual object; it is a unit; it is as distinct and observable as if it were a mountain; it goes to make up a sum which is denominated a thousand or a million. Now just let a child, of adequate age and ability, enumerate palpable, individual substances in this way, and he will proceed, not vaguely and confusedly, but clearly, definitely, and with a perfect intelligence, to almost any amount of numbers, piled up, in idea, one upon another. Then, when he shall come to the examples of the text-books at school, what otherwise would be empty abstractions will to imagination cover and contain, as it were, like clothing, substantial and definite forms. He will have a distinct idea of numerical quantities, such as will be of invaluable

Power of concentration and of individuality improved.

service in the higher mathematical regions, where, as things have been, learners too often grope in a dark and cold misty expanse.

POWER OF CONCENTRATION AND OF INDIVIDUALITY IMPROVED.

Still other benefits from our enumerative exercise may be adduced. It affords opportunity for concentrating attention. It would have the effect to bring a naturally unsteady and wandering mind to act for a time continuously in a specific direction. This is no small matter in education, and also in the practical affairs of life.

Again: the act of counting one by one necessarily develops, more or less, the individualizing faculty. An object must be apprehended as a distinct unit: it is individualized. Perhaps, indeed, this is the best method possible of developing the central and leading perceptive power. The occasion would be of special importance to a child whose individuality might be naturally weak, as is often the case. Such a person, in passing along a village street, would have a vague idea of houses, and this would be all; but if he was set to counting the houses,

each one would come, at least momentarily, into distinct notice, and in some degree, also, its concomitant circumstances. Or, supposing you take such a child to a store, you might suggest to him to count, while you are doing an errand, all the kinds of things he might see on the counter, shelves, or any where else, without being obtrusive beyond propriety. Then, afterward, let him give you his account, and you will find that his store-visit has been quite an instructive occasion. Still farther, the subordinate observing faculties would be called into exercise more or less in connection with individuality. Of course, as each object is enumerated and noticed, its form, size, color, place, etc., would be also in some degree observed. Thus we perceive how a simple operation, which at home is carried scarcely beyond thumbs and fingers except in abstract words, and which is pursued at school probably never beyond the numerical balls, may be made the means of large, various, and most profitable discipline.

It is hoped that enough has been said to show clearly that simple counting is no unimportant item in intellectual discipline. Let it

not, then, be neglected because it is not included, to the extent indicated, in the customary educational programme, or because there is no precedent for it in ordinary experience.

BUSINESS ARITHMETIC.

In the young learner's first arithmetical exercise, enumeration, the importance of having things to accompany words must be most evident to the reader. But, furthermore, the same will hold true of other numerical operations. The purpose of the ordinary arithmetical education is to prepare the student for the business of adult life. The more, therefore, that numbers and figures directly pertain to real substances and to actual transactions, the more immediate and practical will be their bearing on future exigencies. Could exercises in addition, subtraction, multiplication, division, etc., directly concern commodities, and could they, moreover, be performed right in the midst of things, there would be a reality and an interest which could not be felt at the distance of the school, and especially in such abstract examples as generally make the lessons of the

Business arithmetic.

book. It is a common remark with business-men that they did not understand arithmetic, after all the time spent on it at school, till they had occasion to use it in their own actual affairs. The reason of this is very plain. In their business there are certain material substances. If these are not at the moment within sight, they are before the mind's eye: the numerical relations of these things are, therefore, more distinctly apprehended. There is no blur of abstraction about them. A calculation must be made, and this with perfect accuracy: no guesswork can be allowed here. Hence there is a real and pressing demand on the science of number. The interests, the feelings, and the arithmetical operation all tend together toward one end. Something of immediate and practical importance is to be accomplished. No wonder, then, that men who have quite forgotten their school-book rules should now invent rules of their own, and, as is sometimes the case, even make short cross-ents to accurate and provable conclusions. Such is the testimony of practical experience.

Now, could instruction be transferred to the

Family ciphering.

store, the mechanic's shop, or the farm, there is no doubt that arithmetic would be understood and appreciated to a degree which can not possibly be realized at the school-room, as the science is there more generally communicated. The intellect may be, to some degree, disciplined by the abstract lessons there: they are better than nothing. This discipline, however, falls far short of what would come from the demands of actual business.

FAMILY CIPHERING.

But the school must remain in its one assigned location. Its exercises are likely to continue for some considerable time as before—abstract and unreal; for it takes a long while to improve text-books, and, we may add, to improve some of the teachers who superintend their use. Now, parents, must your children be limited to school-book examples? Must they remain with this hazy, half-way knowledge of arithmetic, until they also shall come into the actual business of adult life, or at least that of apprenticeship? By no means, if you will only take a little pains yourselves. You

have had your own school-days, and have gone through the abstractions as your children are doing now, and probably with no more profit. But, since then, you have been putting these dimly-apprehended abstractions to concrete and positive use. Perhaps you have been inventing rules and methods of your own. At any rate, you can apply number and figure to visible and palpable commodities, to all the intents and purposes of livelihood and accumulation. Now it is just such an application which your own children need at this very moment, and which most probably they can not have, except in an imperfect degree, at school. Why, then, shall they not have it at home, and under the instruction of those whom they naturally love better than any one outside the family circle? All you have to do is to sit down among them in the leisure evening, and present the examples of your own business, just such as you have worked out in your own head, or on slate or paper, at your need. If you have been long in life, your memory must abound in instances, or you can invent numerous examples similar to what really occur. Depend upon it,

arithmetic will put on a new aspect to the learners, all the brighter and all the more pleasant because it shines out from a light reflected by the most beloved and trusted friends. If you have not been called by your own affairs to make much use of numbers, and if your own school abstractions—figure-shadows, as they may be called—have been quite forgotten—~~have fallen~~ even from shadows into absolute nothingness, then you can become a fellow-learner with your children. With this fresh school-knowledge, such as it is, they can perhaps instruct you, or at least be the occasion of your learning. You can, at least, mutually assist each other in real, lifelike performances in calculation. Your larger general experience and maturer judgment will, of course, take a respected lead. Home is the proper place for children in the evening; but then there must be work or study, or some sort of entertaining in, preferably to any outside allurements. Suppose, now, for instance, you try, among other things, this arithmetical experiment, and see if it does not, as the saying is, come to something.

EXPLANATION.

By what has been said, let it not be inferred that any objection is intended to the more abstract exercises in numbers, in due process of an advanced education. This right beginning indicates really no hinderance to an ascent into the veriest sublime of mathematics. Indeed, the best assurance for the profoundest attainments in this science must be thoroughly distinct ideas of material objects in their numerical relations at the outset.

In conclusion, let me say that I have dwelt to such extent on this topic, because that, in the arithmetical branch of education, as in almost every other, time, pains, and money are spent out of all proportion to profitable results. Boys and girls, instead of going straight on, step after step, in clear light and on a palpable path, learning the world and its things as they really are, wander, or rather, perhaps, are driven, over ground without any certain foothold—a sort of ghost-land. They are set to peer after and strike at fitting images, and not to lay hold on substantial knowledge, which stops and stays in the hand.

ACTION.

THE POWER OF EVENTUALITY.

It is one of the earliest perceptive functions to observe action, to see what things do, to watch curiously for what shall be done next. No matter what it is that acts or simply moves; the little eyes are intent. It may be the flitting of a feather or the flutter of a leaf. If the object is a living one, like the kitten, the dog, the horse, or a bird, how delightedly the varying movements are followed! The comings and goings of human beings still more strike attention, especially those of new forms and faces, which may happen along.

Now the observing of movement requires a distinct operation of the intellect. Puss asleep and perfectly still in her corner is an object of notice altogether different from puss skipping across the room and hopping into some indulgent lap. So different is the action of an individual object from the individual itself, that phrenologists affirm there must be a distinct faculty to take cognizance of it. Indeed, they

think they have discovered a special organ for the purpose in the brain. This organ, matter and spirit together, is denominated Eventuality. Whether the theory be true or not, it gives us a more distinct idea of the intellect in its relation both to actions in continuance and actions completed. Now this particular observing faculty is of incalculable importance in the educational course of the young. It needs a systematic and thorough discipline as much as any other faculty.

DIFFERENCES IN THE OBSERVING POWER.

Parents and educators have scarcely thought of the difference between one person and another as to the ability of clearly perceiving actions as they occur before the sight. Even in the same family, one organization will be found much superior to another as to this sharp-sightedness at events. One particular child will be strangely and habitually unobservant of incidents around. Ask him if he saw such a thing done, and he knows nothing about it. It is as if he had been closed round with a thick mist, or been living in a dream-world of his own, or

had no eyes at all. His brother, much younger, it may be, catches, at the same time, every passing circumstance as with a kind of appetite. He will look and learn at any rate. He will see incidents just in the order and connection in which they took place, and he will narrate them with equal exactness. Now these differences will run on through life, and characterize the mental operations and acquirements, and perhaps the material fortunes of the two relatives. The originally strong power will become stronger through ever-new occasions, which it instinctively seizes on just for its own gratification. It will grow because it can not help growing. On the other hand, the defective perception will still continue weak and inadequate; that is, unless it be developed by special training, or by peculiar circumstances of business or necessity.

The eventuality of the majority of people, though of normal and average strength, is so utterly neglected in specific education as but very imperfectly to perform its office. The world is full of action. Things inanimate are in movement, and produce effects. Living crea-

tures, while awake, are almost always in motion, either with or without some definite purpose. So thick, so various are activities of one sort and another around the human being, that he can not possibly notice all of them. He observes only a part, and such as attendant circumstances may bring to sight. Even these he may not observe distinctly and accurately, because there seems no special need of it. He notices, if he notices at all, simply because he happens to look. As a general matter, there is no directness of attention caused by any previous special discipline. There is, moreover, no sense of moral obligation to endeavor to know exactly what takes place as he looks. Of course, if there is no call for particularity, why should the child or the youth be particular? He will have no more reason for it than he would have in counting the trees in the orchard, or the stones in the wall, till he shall be put upon the exercise, as in the case of the arithmetical discipline which has been already advised.

CONSEQUENCES OF NEGLECTED CULTURE.

Thus it is that a faculty of incalculable practical importance has failed in its office; and, like all neglects and failures, this has been followed by more or less of retribution. To consider all the evils resulting from inaccurate observation of facts, and careless statements about them, would be to take in all the world and all time since Adam's fall. Words and figures would fail of the amount. A few instances will give us some faint idea of the abounding evil.

A careless young observer, giving an account of any disorder in a school-room, will make a statement quite different from what might have come from another witness with a clear-seeing eye. In consequence, some poor urchin may get an unjust punishment. The same careless describer of the offense, coming to be a man, or even before he arrives at this age, may be called to the witness-stand in a court of justice, and may unintentionally testify so wide of the truth as to what his eyes seemed to behold, that a fellow-man may innocently be subjected to fine, imprisonment, or even death on the gallows.

Now consider all the millions of cases which, in all the world, have been brought before magistracies and juries, and there decided according to testimony, and we can have some idea of the thousands of unjust decisions—unjust because of the imperfect perceptions of really honest witnesses.

Take human society as it exists every where around us. Suppose any city, town, village, or even little neighborhood: what misapprehensions and misstatement of facts are continually occurring! Now and then some base scandal starts up, and comes to an enormous growth. In the majority of such cases the story is not an entire fabrication. ~~There has been some incident~~ as a groundwork. But the eyes of the first observer and reporter of that incident were so inadequate to their office that he gave only a part of the truth, or added a trifle to it. Thus the error first sprang into existence; then, passing from lip to lip, it grew at length into a great fiction, having but little of the original verity about it. All this might happen through a mere intellectual defect, without the least intention of departure from the exact truth.

Again: the mistake might originate from the same incapacity in some one of the hearers of an affair. It must be understood that those persons who would naturally see a transaction but imperfectly, would also, from the same weakness of faculty, get imperfect notions in hearing an account of a transaction, even if that should be thoroughly correct. In the first place, they receive but a dim idea of an occurrence as it comes to the ear; then they but faintly remember it. In a procedure embracing a series of incidents, some one item or more may fall out of memory altogether. Consequently, their statement of the case will make quite a different matter. Thus, however exactly truthful a first observer and narrator may be, hearers will inadvertently receive only dim and altogether inadequate ideas of an affair. In this way, a chance auditor of some truthful narration may start a most egregious error on its irrepressible course through the lips and ears of a community. While there is but one original witness, and he entirely truthful; there may be at length a hundred hearers of his account, many of whom will unintentionally re-

peat it with more or less variation from the facts as they come to their ears. No wonder that falsifications so numerous and so universally prevail, when we consider this one simple, unthought-of intellectual deficiency.

Still, all the evil is not to be imputed to this source. There are very often moral perversities through which such mistakes are magnified, and made far more operative for evil. A characteristic love for gossip, together with peculiar imaginative ability, will enlarge a trifle into wonderful magnitude, and diversify it with curious forms. But, what is much worse, an uncharitable, censorious disposition will exaggerate and blacken little innocent affairs into heinous sins or even enormous crimes. A bad spirit, with a big imagination, will create monsters out of almost nothing. Thus it is that heart-burnings, broken friendships, and even bloody assaults and cruel murders have come to pass without number. Very few, as society has been and now is, go through life without some personal experience of the sort.

MISTAKEN SUBMISSION TO THE EVIL.

Such carelessness has there always been in observation and statement, so uncommon is perfect accuracy, that errors are taken as a matter of course, and as what can not be helped. While an individual is under personal grievance, he will complain of careless eyes and truthless speech, but otherwise there is a singular indifference to the evil. People do not expect the truth. They are inured to falsehood, and let it go. No idea of improvement in the way of education has occurred probably to one in a thousand. Any moral obliquity, it is expected, may possibly be corrected by Christian influences, but any thing farther is hardly considered within the range of reform. Things are as they have been, and so must they continue to be, unless supernatural influences shall arrest their course and make a change.

WHAT A NEW DISCIPLINE WOULD DO.

It is rational to suppose that much improvement may be achieved by simply understanding the mental organism, and conforming the

early discipline to its conditions. There is a great advantage in good intellectual habits, independent of moral convictions and principles, if these latter influences on conduct can not be had. Let a child be trained, as a matter of discipline, to see and describe things exactly as they are, and this habit of accuracy will continue in after life, just as any other habit may continue, entirely separate from the thought of moral obligation. A person may be educated to extraordinary facility in arithmetical calculations: no moral element enters into this peculiar ability. Just so it may be with the perception of events. Could all the families of a neighborhood be trained, from their earliest infancy upward, to see things precisely as they are, and to describe them just as they were seen; and could the same discipline be carried into schools, and the pupils be trained to be as exact in observation and description as they are trained to be exact in performing arithmetical problems, there would be an unexampled improvement in conversational trustworthiness and in neighborly relations. There would be, as there is in other things, a sort of emulative

desire for accuracy, and perfect truthfulness to fact. A failure as to the precise fact would lower the intellectual standing and reputation. A faulty observer and teller of incidents would be considered as poorly educated, like a blundering reader or a bad speller. Could such a discipline be carried into every family and every school of the country, there would be a national reform. A whole people would be educated to see events accurately, as they might be educated to survey correctly and minutely the geographical features of their native town, as was recommended in the suggestions about place. They would be capacitated not only to observe actions in their progress, but to apprehend the causes and the results of action to a degree beyond all former precedent. Could moral and religious motives be brought to bear on this point of culture as they ought, what wonders of improvement might be accomplished! But the all-important aid of the conscience and the heart will be hereafter considered.

HOW THE DISCIPLINE MAY BEGIN.

As soon as a child is able to tell his expe-

riences, it may be easily perceived what native strength and precision of eventuality he may possess. Then according to his lack must be the particularity and assiduousness of his educators.

Now the question comes, Where and how shall the necessary training be commenced? There need be no search after lessons; for—to use several of the appropriate terms—motion, action, incidents, events, and facts are close by, and every where around. The first thing that happens may be an exercise of discipline, if the child is old enough to notice and give some account of it. Still, there must be advantage in system; and, for this reason, one subject will be preferable to another.

Certain transactions are better suited to begin with than others, which might be good for a farther stage of progress. One of the acknowledged rules of education is to commence with what is best known or can be most easily known, and thence proceed to things more difficult. The chief requisites are distinctness of perception and correctness in recital. It is important that the several parts of a proceeding

should be noticed according to their precise succession. Those operations are excellent for attention and questioning, at the outset, in which first one thing is done, then another, in necessary order.

HOUSEHOLD LESSONS.

The industrial concerns of a household are numerous and diverse: let them, by turns, become lessons for observation. No better instances can be presented to children than the goings-on around them in ordinary work. They are interested in what their friends do. The smiling aspect and kind tones of invitation will be all that is wanted to enlist their special attention to any movement, or series of movements, performed by their domestic friends.

But let us illustrate. Take, for example, the setting of the table for dinner. There is, first, the drawing-out of the table to the proper position; second, the lifting and fastening of the leaves; then the spreading of the cloth, and so on, one performance after another, till the meal is ready, and the family are at knife and fork. Now let the child, as a matter of discipline, ex-

actly describe every process of the table-setting in its exact order. Let there be no mistake in the sequences, as perfect accuracy in this particular respect is one of the benefits of the lesson. The same use may be made of other household duties in which there is a methodical routine. Of course, children, whether desired or not, usually notice such proceedings. These are among the occasions of that unconscious and gradual development of intellect which will go on without care or thought on the part of the little learners or their friends. But, according to their native power of eventuality, they may either notice each particular of a transaction in its due order, or have but imperfect perceptions and confused ideas. The important point aimed at is accuracy in seeing and telling, as a settled characteristic; an ability which shall prevent no small harm, and do great good, in that future which depends so much on early-formed habits. Take mental constitutions as the average, and this perfect exactness of sight and speech can not be had without some special discipline. The practical advantages warrant all the pains which can possibly be given to the subject.

MANUFACTURING LESSONS.

Besides the various kinds of orderly work at home, the several divisions of skilled labor, the distinct and life-long occupations of people, will afford most valuable exercises in this sort of observation.

First, take those more simple mechanical trades which are common in every country village or town, and are mainly carried on by hand. In each one of these there is an orderly procedure: first one thing is done, then another, and so on through a course of work. Now let a child of adequate age watch the processes, and afterward give an exact account. In due time, have him visit mills and factories, and trace their more complex operations, noticing how the several connected forces produce results.

AGRICULTURAL LESSONS.

Educational visits to the farm must certainly not be omitted. Its affairs are probably more numerous and diverse than those of any other separate productive employment. From the

Benefits.

first touch of culture in the spring till, all the harvests are gathered in, there is orderly progressive work. Then, in the winter, there is the kindly care of animals in several daily processes. There are, besides, useful but less regular doings which come in between the rest. Now all these matters, judiciously presented, would be exceedingly interesting and instructive to the fresh perceptions of the young. They should begin their agricultural observations with the earliest movements in the spring. Let them notice every distinct kind of labor in all its items, and these in their orderly and precise succession. Then an account should be required as perfectly exact as any prescribed recitation at school.

BENEFITS.

All industrial occupations might afford lessons similar to those indicated above. It is not necessary to particularize any farther. Now it can not be doubted that this peculiar discipline would be of no inestimable advantage to the young as candidates for life's activities and uscs. No descriptive books could equal, or

What a father might do.

make up for, this positive knowledge caught by the naked eye.

One special and important benefit would be the obtaining of some considerable insight into the various trades and pursuits of men. The pupil would also learn something not only about methods of procedure, but about the materials and implements used. What is, moreover, of much consequence, he would obtain that knowledge of different kinds of business which is really necessary to develop his own taste, and to form his judgment in respect to the choice of an employment for himself. Still farther, he would eventually come to that understanding of the various avocations of men which is quite necessary to form a just estimate of their respective and peculiar services. Indeed, such a knowledge would lead to that charity and kindliness which is so much needed, but is so often withheld.

WHAT A FATHER MIGHT DO.

It may be averred that, in this intelligent part of the country, most people have some general ideas of the different departments of

industry. But why not possess a more thorough and systematic knowledge, when it can be so easily gained? During the years usually devoted to education, there might be obtained a quite extensive and comparatively intimate acquaintance with the various pursuits of life, and this without much that would seem like a task. Nothing would be necessary but simply to take or make occasions. A father could scarcely better employ a little respite from business than to take his children, as a pleasant pastime, to places of various industrial activity. A small portion of the time now spent in school on studies unadapted to the pupil's age, but faintly understood and quickly forgotten, would suffice for the purpose.

NATURE'S WORKS AND WAYS.

Man's art and industry should not engage the whole attention. In the mean time, let children, from the earliest ability, observe the movements and processes of nature. If they are capable of admiring human inventions and their effects, they can be led to admire and

study the wonderful machinery by which the Creator brings about results. Some will see and reflect considerably, and ask questions, and grow in knowledge with but little prompting. It is not so with the majority. They soon become so accustomed to all regular phenomena that they cease to think much about them. As for the more covert processes, existing such as may unexpectedly startle their sight, they scarcely, by themselves alone, find them out. Whatever is going on continually in regular successions of movement, and which has been thus going on from the earliest remembrance, is unheeded by most, simply because of this very order and constancy. It is with people, as they grow gradually up, in respect to the mechanism of nature, as it is in respect to the household time-piece: they are so accustomed to its tick, tick, that they do not hear it; and if they happen to catch a glimpse of the inner machinery, they have no curiosity to study a structure which, close by, has served their convenience so well and so long.

These faculties, thus admirably fitted to observe and know, should not become so dead-

Nature's works and ways.

ened and useless. The infinite Designer and Maker not did so intend. The infant possessor begins early and aright to use them. His innate instincts, almost as soon as he fairly gets his eyes open, prompt him to look and learn. How intently he gazes on the flickering flame or the waving tree! He is pleased with any sort of gentle motion. But these instincts should grow into earnest desires to look farther and farther, and to learn still more and more. All that is needed with most is easily-given direction and sympathy. At first the child simply observes movement, and has no thought beyond the impression on his sight. But this observation is the initiative step toward the whole philosophy of causes, effects, and uses. This one perceptive power, eventuality, holds the key, as it were, to all natural science. This science, in large degree, consists in understanding how the masses and elements of matter, and the organic forms of it, act on each other, and what are the ends designed. Of course, the action must first be known before it can be discerned whence it comes, or to what it tends. What rounds, and ranges, and mazes of move-

Casual events.

ment between the stupendous rolling and circling of worlds and the leaping affinities of atoms!—an infinitude of agents and activities; millions of distinct organs, and offices, and operations, yet one connected and harmonious mechanism, moved every moment by one infinite Power. Now, parent, shall all this be no more to your beloved child's curiosity than the ever-swinging pendulum or the ceaseless tick of the old convenient clock?

CASUAL EVENTS.

Besides those processes which take place in regular routine, and which may be repeatedly observed by the learner, and, as it were, got by heart, there are other occurrences which are fortuitous and unexpected. Nothing before has been exactly like them, and nothing will follow exactly similar in the collocation of all the several objects and circumstances. Events of this sort are transpiring every moment. Mankind, exercising their own wills, are continually doing this and that, according to contingencies. It is such transactions, not distinctly observed, and affording no second opportunity for bet-

Casual events.

ter sight, which occasion those misstatements whence come innumerable difficulties and heart-burnings in society. Perfect accuracy in observing and representing these is of surpassing importance. A habit of being truthful to facts should as early as possible be formed. To this end, no discipline can hardly be too persistent and thorough.

Those unimportant incidents, ever new and various, which are continually happening within and around the home, present the most convenient lessons to the little observer. Of course, it is not necessary that he shall get through all the methodical processes before alluded to, even those within the house, before he may be put upon these. Let it be an emphatic requirement that, in his account, he shall omit no circumstance, nor put one out of its exact order, any more than he did in the case of the table-setting, or any other fixed and regular proceeding. Thus a habit will be formed of distinct and consecutive observation. Besides, in this way, the young mind will be aided in acquiring that ability of concentrated attention which is so important to success in either study or business.

Influence upon literature.

If those casual occurrences which are in themselves of no special importance shall be accurately noticed, those transactions which make their mark on a day or a week, or on the times, will, of course, secure the pupil's close and minute attention. There are those proceedings which may be not only a discipline, but a rich instruction. Among these are public movements and spectacles. Some of them grow out of prevalent tastes and customs, such as funeral and civic processions, ordinary military parades, and anniversary occasions. Others make a part of the history of the times, such as the marching of troops and the sailing of war-vessels, as in the present great national crisis. Hitherto no specific and circumstantial attention to such events has generally been required as a part of education; but they afford lessons of far greater value, if rightly conducted, than are found in the naked, crumb-like facts of some historical text-books, which wearily occupy much time in seminaries of learning.

INFLUENCE UPON LITERATURE.

It is by no means intended to disparage the

study of well-written history. Indeed, intent and thorough observation, study of passing affairs, which has been recommended, will be a valuable preparative for the study of history in the school, or for the profitable perusal of it at any subsequent time. It will be a useful qualification for any sort of reading in which facts are comprised. A person who, from constitutional defect, takes but a slight or confused notice of present occurrences, will have but a slight remembrance of them. He will have a much more imperfect idea and remembrance of transactions which are presented only through language. The action-noting faculty, which has been well disciplined by what transpires immediately before it, will be more readily impressed by mere verbal communications. A narrated occurrence will thus be more clearly conceived of: it will not seem distant and dim, but, as it were, present and distinct, to this particular observing power. The memory, moreover, will be proportionally retentive; for each intellectual faculty is supposed to have a memory of its own, so that the eventuality which is keen to perceive is also strong to retain.

This exactness in the knowledge and presentation of events, as a matter of culture and general habit, must necessarily have a most salutary effect upon the literature of the people, both that which they themselves make and that which is made for them. If conversation become more true to fact, epistolary communications will share the improvement. Gossip by the pen will be reformed as well as gossip by the tongue. But, beyond this, historical compositions will be characterized by more thorough and satisfactory research. A public opinion which has been trained up to the mark of absolute truth must press upon the responsibility of writers, so that history, in future, shall not have to be rewritten, and the characters of men rejudged, as heretofore, for the sake of right and justice.

Again: with this better culture as to action, fictitious productions, which now make so large a part of the common reading, will be altogether more faithful to nature. No small portion of the novels, and especially of the juvenile tales of the day, are poor representations of human life. Their authors seem to have been

living, from childhood up, in an imaginary world. They have not studied, as they should, nature and man in those multitudinous activities by which traits and qualities are truly made known. Now this special culture of eventuality will supply fancy and invention with those truthful materials which have hitherto been so much wanting. Thus the creations of genius will become verisimilitudes of what has been actually experienced, or what at least is possible to man in view of the known principles of his being and his surrounding conditions.

Coming generations will have this true literature. When the whole people shall be trained to an exact observation of the real and moving world, then the few who shall write for the people will not fail of that best discipline and knowledge which comes through the primitive and surest use of the eyes.

NEWSPAPER REFORM.

One of the most important benefits to come from eventuality, as it should be, is the improvement in newspaper literature. Every

body in our country, who can read at all, reads the newspaper. It exerts a wider and deeper influence than any other emanation from the press. It does unmeasured good, but also much evil. A new appetite has been engendered, or rather a constitutional one intensified tenfold. It is a rabid hunger for something new; and, besides this, for something as much as possible exciting. The newspaper would not be a newspaper unless it furnished this new thing. Hence a competition between journals. That goes off best which contains the keenest stimulative for the moment. The slightest rumor is caught up, and made the most of to-day; but it may be utterly contradicted to-morrow. No matter; it serves its end; it satisfies the craving. Thus, if no other harm is done, thought is prevented from settling down on serious and really important subjects. The popular mind is unsettled, and is kept unsettled and unstable. There is especially a bad effect upon the young, who, as they grow up, ought to be getting their faculties more and more, and continually, into a condition of strength and consolidation. For thorough-go-

ing, substantial reading, there is not time; and as for deeper science and philosophy, they are scarcely thought of after leaving the school.

Now, should there be an education from the earliest to a clear perception of passing incidents, and to a thoroughly accurate statement of them, the young would come up into life with a habit of accuracy, and, in consequence, with a taste for it. Vague observation, and more vague description, would be no part of their experience. For such readers, the newspaper item about somebody or something must have a ground of probability. If such things be found within a day or a week utterly false, the public taste and habit will say, "Away with them! nothing of this!" Thus journals will compete with each other for exactness to the truth. A public man's character will have a safety not recently experienced. A distinguished lady's delicacy will not be offended by some false rumor about her, as is now sometimes the case, published from end to end of the land. Thousands of things, utterly unwarranted, will not be breathed into growth, as at present, by this hot breath of desire for the new and exciting.

In this advanced age, when steam and telegraph bring news from all quarters of the world, sufficient for every day's entertainment, falsehood will not be needed. Indeed, there will hardly be leisure to glance along the abundance of authenticated facts; and many of these, in this new and wonder-producing era, may be quite as attractive to curiosity as any catchpenny fabrications, or even the more innocent scintillations of genius.

PARTISAN CALUMNIES CHECKED.

But, above all, the bitter calumnies of political partisanship must receive a wholesome check, if they do not utterly come to an end. These are the worst concomitants of our elective government. These are the abominations of the country. These too often thrust our best men prematurely into retirement, or prevent them from coming out of it at all. As things are now, character is mangled, murdered in political warfare. Could the people of this country be trained to be faithful to fact, a salutary influence must be exerted in this direction. A change for the better would be wrought,

such as hitherto has never been known in popular governments. If absolute fact be demanded, all electioneering misrepresentations must cease. That party which should resort to falsifications must succumb—must wear written on its very forehead *Wrong*. Let a thorough examination into facts be the groundwork of political opinion, and the reason, the intelligence, the common sense of voters would bring an overwhelming majority to the side of the right and the best. The people would come to know who are their truly wise, good, and great men, and would give to them their confidence. The people would confide also in each other. Then, instead of democracy, deceived, cheated, degraded, and made a by-word through the monarchies of Europe, there would be a democracy like the clear shining of the sun after the rain, enlightening the eyes, and warming the hearts of the common masses all over the world. It would be like a great luminary in the heavens, ascending toward its noon, it might be, but there to stand still, as the sun did of old, while the true and the faithful every where should become victorious and free.

PRESENT STATE OF OUR NATION.

But such a state of things has not yet been, and many fear that it will not exist perhaps for ages. Our nation, at this moment, heaves and tosses like ocean in the storm; yea, as with the more terrible earthquake, opening new chasms downward, shooting new volcanoes upward, even shaking the nations that are afar off, and perplexing monarchs on their thrones. And all this has come from the lies of selfish, wicked men. Old custom, the love of ease, of power, of wealth, and luxury, could not possibly have prevailed, had it not been for this diabolical "refuge of lies." Had the truth as to facts, nothing but the truth, been presented from the platform and the press for the last **thirty years**—had the people received the truth, and reflected it to each other just as the millions of the summer dewdrops reflect the unfailing, benignant sun, the present fratricidal war could never have been. It would have been as utterly impossible as for hailstones and thunderbolts to have fallen from the cloudless sky on herb, and beast, and man below.

The demons of falsehood still divide the land. The Father of Lies himself hangs, as it were, invisibly over it, in all his hideous, heaven-defying malignity, and scatters his own arrows of destruction into the ears and the understandings, and down into the hearts of a credulous people. What the end will be, no one but the omniscient God, or foreseeing and truthful angels, can tell. Parents and teachers, such now is the state of our country; and why is it so? why has it been so? Because the parents and teachers, your predecessors, generation back behind generation, did not train the young to see the truth, to speak the truth, and to live the truth. It is because the educators themselves have been false: how, then, could they train their children and pupils to be true?

Now, shall this state of things remain? Shall it be ages before we become a stable people, with a stable government and a stable prosperity? It all depends upon you, parents and teachers of this nation, whether we shall grow into safety, and realize the hopes of yearning millions the earth over, or not. Accept the

views which have been here imperfectly presented as to training to the truth; let them be adopted in the family, in the school, in the land throughout; and, with one addition in the educational plan, there will be, there must be, inevitable success.

DISCIPLINE OF THE CONSCIENCE.

But this addition—the discipline of the conscience—is the most important matter of all. Without it there can be no assurance of steady progress and of final security. This is the culture of the conscience side by side with the discipline of the observing intellect. Nothing can be more true, as all history proves, than that the human heart is deceitful above all things, and desperately wicked. Such is the selfishness of human nature—a selfishness acting from very infancy, and strengthening with the years, subjugating the intellect to its service—that the conscience must be awakened at the earliest, and set to its restraining work. All the solemn warnings of religion will be needed with some constitutions to make the tongue's statement true to the eye's witness.

ing. Parents, upon you is imposed, by the infinitely True, the responsibility of quickening the moral sense of your children to the surest guardianship over the tongue, and, indeed, over the feelings and motives which lie beneath the speech. Teach them that knowingly to deviate from exactness, even as to trivial incidents, is to be guilty of falsehood, and falsehood replete with danger; for it prepares the way for more serious deviations, and thence more heinous obliquity. Impress upon them that what has once really taken place is fixed: it has been, it exists as a fact forever. However human beings may misconceive it, take from it, or add to it, there it is, printed on the irreversible page of the past; there it is, moreover, naked before the Omniscient Eye. Neither wishes, nor prejudices, nor passions, nor volumes of words can change it one tittle. In the process of time, and in the passing away of temporary motives and feelings, events may come to be seen in their true light. Then self-seekers and falsifiers will stand out exposed in the same light, and in their naked deformity. Train your children, therefore, to believe and

to feel that they might as well struggle up, despite of gravitation, into the clouds for a hiding-place, as to struggle away, and forever keep away, from the fastness of fact and the searching severity of truth.

TWO BEINGS WHO CAN NOT BE ESCAPED.

There are two beings from whom the untruthful man can not conceal his guilt. One is himself. At the moment of its utterance he is conscious of the falsehood. Henceforth it is written on his memory that he has *lied*. He can no more wipe it out than he can wipe out the wrinkles on his brow above it, or shape into infantile openness the sinister expression of his face. There it is, registered on his memory forever. It may sink away from the constant glance of his own thought, perhaps it may remain unseen for years; but it is not gone. The leaves of more recent experiences are but laid over it. Some time, with lightning swiftmess, these leaves may be flung back; and *there*, as in years long before, blazes out the record — *falsifier, liar*. Teach your children, therefore, that, if the untruthful shall escape all

Time.

the rest of the world, he shall ever, ever be pursued and found by HIMSELF.

The other being from whom the liar can not hide is that One of whom it is said in the sacred oracles, "He that planted the ear, shall he not hear? He that formed the eye, shall he not see? Shall not God search this out? For his eyes are upon the ways of man, and he seeth all his goings. There is no darkness, nor shadow of death, where the workers of iniquity may hide themselves. Hell and destruction are before the Lord; how much more, then, the hearts of the children of men!"

T I M E.

IN close connection with action is another important matter of discipline. It regards the relation of time. Movement occupies more or less duration according to the space or distance passed through, or according to the number of motions, as in those indicated by the ticking of a time-piece or in the pulsations of the blood. It is supposed that there is a spe-

Time.

cial faculty for the perception of time, as there is in the case of other qualities and relations in nature. There are those who can tell almost any hour of the day or night without clock or watch. Such persons have a naturally keen perception of time, which has been increased by constant use. They are always to a moment punctual to their engagements. They keep nobody waiting; that is, if their moral nature is as true as their one intellectual ability. Others have a character directly the reverse. Owing to a constitutional weakness, or the undeveloped condition of this faculty, they have but little consciousness of the passing moments. In early life, they are behind at school, unless well prompted; as they grow up, they are behindhand in their engagements, behind in their business, behind at public meetings. Are they on committees, or in any service associated with others—they are always tardy, and keep their fellow-officials in uneasy endurance. Perhaps, when they do arrive, they may consume much time in needless talk, through the same unconsciousness which made them late.

Disastrous lack of promptitude.

he is constitutionally defective, and can measure days and hours scarcely much better than the senseless clock with its machinery askew.

DISASTROUS LACK OF PROMPTITUDE.

In human affairs, there are crosses and losses innumerable and incalculable through lack of promptitude. At the first battle of Bull Run, the long delay of one division in the morning's march was an incidental cause of that lamentable defeat. Had our army got into action as early as was intended in the commander's plan, a decisive victory would have probably been won several hours before those re-enforcements arrived which turned the scale in favor of the enemy. It was probably a miscalculation as to time on somebody's part which prevented the pontoon-bridges from reaching Fredericksburg coincidentally with the army, and thus delaying Burnside's great movement and leading to ultimate defeat. History records numerous instances of similar disasters.

Early attention to the time-faculty.

EARLY ATTENTION TO THE TIME-FACULTY.

Now, as this defect as to time is often a constitutional deformity, it should be understood at the very outset of education, and be remedied by the most assiduous culture. It may be discovered, by a little attention, what the native capacity of children is in this respect. See whether they are prompt at school, church, or any other place, at the appointed moment. Note whether they seem to lose all idea of time in play or talk when some pressing duty is before them. Should there appear an unconsciousness of duration, then they must be watched, and trained accordingly. As a disciplinary exercise, they may be put in many ways to the exact observation of time in the course of ordinary duty. In some affairs, certain operations require a certain measurable period of time for their accomplishment. The usual routine of every day in household or farm matters is divided into several parts appertaining to one thing and another. In the course of experience and habit, calculations are very readily made in respect to the quantity

of time demanded by each, so that every thing may be attended to and finished in order. But the young generally need some special discipline before they can accurately adjust one thing to another in their engagements. Some require very much care for the purpose. If they should be neglected in this matter by the first parental educators, they would be likely to go through the whole subsequent life, confused themselves, and confusing others. Innumerable people continue all their days in this unfortunate predicament, and just from the lack of forethought and discipline.

HELP FROM THE TIME-PIECE.

Accustom, therefore, your children to notice particularly the hours, the half hours, and even the minutes occupied in any regular work or duty. Let it be, however, insisted on that performance shall be thorough and without fluttering haste. In this way they will learn how to portion out time to its several uses. They will be educated into a substantial and reliable judgment as to the seasons of regular duty.

There are occasional transactions which also

may well be made lessons. In doing errands at a store, or a neighbor's, or any where else, let the time of going and coming at ordinary speed be carefully noted. As children are fond of special exercises if they be made agreeable, let them guess how long it will take to walk or run a certain distance and back again, or to make a certain number of motions with the feet or hands in imitation of work, as in the Kinder-garten plays. Suppose any new work is to be undertaken: let there be guesses as to the time occupied. Indeed, no matter what the operation is, it will serve to discipline the young to mark time with precision, and to form habits of adjusting movements to movements with an economical accuracy, which shall be a lifelong benefit to themselves and to every body who has to do with them.

MEASURING TIME BY THE SUN.

It is a good plan, furthermore, to have children measure time by the place and the progress of the sun. Let them guess the time of day by the sun's position in the sky, and then refer to the time-piece to see how near the pre-

Measuring time by the sun.

cise moment they have hit. Let such an exercise be pursued till the hour of day, at any place of the sun, may be quite accurately determined. A similar course might be pursued in respect to the moon and the stars, for the sake of a more thorough education of the faculty, and perhaps for occasional and valuable use in emergencies that might arise. Indeed, the first idea of time came from the regular movements of the heavenly bodies. Hence originated those divisions of duration which are named in the languages, and govern the doings of all the world. These phenomena of the heavens perpetually teach and remind mankind of the importance of method or economy in the use of time. No lesson pertaining to life's practical affairs is inculcated on a grander scale than this. It is written on the expanse of the firmament. It is illustrated by revolving globes. Parents, shall this wisdom, so mightily and momentarily vouchsafed, be lost to your children because you fail to interpret it to their understandings and impress it on their hearts?

Order.

A special faculty.

ORDER.

IN the works of God there is a certain order, or methodical arrangement, which is best adapted to the end for which they were made. Not only organic forms of matter, but the operations by which they accomplish their uses, exhibit this perfect adaptation of one thing to another, and of means to ends. Thus they give an all-important lesson to man for his own works and ways. In human affairs, by a similar systematization, the greatest good is brought to pass.

A SPECIAL FACULTY.

It is supposed that there is a special mental faculty which takes cognizance of order. It gives to the individual the ability to notice and appreciate it in things around, and also the ability to do things, and keep things himself, according to the same rule. There are sometimes wide differences between one person and another as to the native strength of this faculty. To be convinced of this, we

have but to recall our experiences with various people. One has a place for every thing, and keeps every thing in its own place. Such a one is thoroughly systematic in business. That thing is done first which in good judgment should come first. He knows when his work is completed. There are no hurried runnings or flurried huddlings to finish up what was supposed to be already finished. With him, "done" means *done*, and is truly so. His anticipated leisure is not all cut up or cut short in the least by his own neglects. As far as depends on himself, he is always sure of time for pastime. Just like the sun that regularly shines on him, he knows his exact path, and his exact place in that path, at every hour from morning until evening; and then he knows when his day is done, as the sun knows his going down.

How entirely different from this is the constitutional character and prevalent habits of another person! Indeed, how many there are who, as to a systematic disposition of things, are about as much to be calculated on as the dust blown and tossed by the wind! They

do not calculate on themselves. They are disturbed by tendencies which have crept into their natures from some progenitor: so these tendencies impel them to and fro, up and down, evermore, because no educating hand came in good season to the rescue.

Such being the contingencies of poor human nature, they should be looked after without fail, and right early. The educator should understand the child's native mark of ability to appreciate order and conform to its laws. It can soon be seen whether much attention shall be required. Be the faculty stronger or weaker, it should be put to its use, and consequently under discipline, the same as the other intellectual powers. The parent's loving heart will be glad at an easy task; and the same heart, together with a quickening conscience, will prompt to perseverance and insure success in the more difficult case.

HOW TO DISCIPLINE THE FACULTY.

Let us now consider what a child may be put upon quite early in the way of training the faculty of order.

I once knew a child, not more than nine months old, who was disturbed and uncomfortable when some prominent article in the room, as a table, work-stand, or chair was not in its accustomed place. He would point with his finger, together with a significant—indeed, an imploring expression of his eye, to the thing in its irregular position. This child, no doubt, possessed the faculty of order in very strong constitutional development. But we may infer from the instance that children, on the average, may, in this respect, be quite early trained to strength and accuracy. A child who only creeps might be set to the use of pushing a displaced chair into its position in line with the other chairs. When he shall get fairly upon his feet, he might have a care, according to strength, that any article of furniture in the room, when out of place, should be put right. Such a charge would be not only a discipline in the plan of the parent, but an actual pleasure in the idea of a child. He wants to move; he can not bear to be still: if he can do things to a certain end like others, and especially if he can gratify others by his activities, he is in his life's delight.

CARE OF PLAYTHINGS AND CLOTHES.

Accustom a child to take the best possible care of his own playthings—to have a special place for them when not in use. They should never be thrust confusedly down, and lie in a jumble, as so often happens, but be laid by with as much regard for convenient arrangement and neatness as any implement of adult industry should be put away, each where it belongs. This order about playthings will be an important preparation for order in the work-things of after life.

Still farther: let children be educated to keep their own clothes in the best possible disposal in the drawer, chest, or closet, or wherever they may be placed. Let each article, however small, have its own particular position, where, if need be, it might be found in the dark.

Their clothes, on being taken off for the night, should be put in a certain definite and appropriate place; not here at one time, and there at another, but in the best position for airing; and each article in such a manner as

Household matters.

to be most easily come at, even without light. Thus, in the case of fire and the necessity of quick escape, whether at home or abroad, whether at the house of a friend or at a strange hotel, the clothes could at least be snatched by the hand, if there should not be time to put them on. By an orderly habit of this sort, thousands in the conflagrations of the past would not have been driven almost naked from the burning into opposite elements, which diseased them perhaps for life by their inclemencies.

HOUSEHOLD MATTERS.

When children shall be old enough to assist in household affairs or other duties, it is of much consequence that they should do every thing according to that exact succession of operations by which any kind of work can be most speedily and thoroughly accomplished. Days and weeks, and, in a long life, even months, are lost to some because the precise firstly, secondly, thirdly, etc., are not linked into habit. The buzzing, clattering, rumbling factories of all sorts might instruct such wasters;

Boys.

for here must be a certain beginning, a regular progress, and a definite and sure completion.

Early and fixed habits of this sort will have great influence on their own industrial conditions and success in the far future. In the case of girls, the practice of order can not be too early commenced, and it should never be intermitted. They grow up right in the midst of those matters and things, the like of which is to make their own chief duty as wives and mothers. Laxity of order in girlhood, unreformed then, will run very probably a disturbing force through all their housekeeping future.

BOYS.

In the case of boys, they may be put to apprenticeships in which there is a necessity for a certain order, as in mechanical trades and the use of machinery. They may be compelled to be systematic in their vocations to a certain extent, yet in other affairs they may fall into exceeding laxity and confusion. Whatever, therefore, they have to do, within or around the house, should be performed with regular-

Neatness.

ity and precision; not only because it is best for the occasion, but because it will be a valuable discipline toward their future.

NEATNESS.

Personal neatness comes under this head of order. This, with some constitutions, will be found to require much training and discipline. There are children who, from a native instinct, have a strong abhorrence of any soiling of their persons or clothes. They are early quite sensible of any lack of neatness about a room. Others are much the reverse. These seem to enjoy dirt and disorder as much as others do the best condition of things. These disorderly natures must be early looked to, and continually watched as they go along up, that, through mere discipline, they may have that habit of neatness which will be necessary for the comfort and satisfaction of others, if not for their own. Many a man, slovenly in his person and in his business, many an untidy woman and housekeeper, might have been blessed with at least average habits of neatness had they been properly disciplined in their early homes.

Neatness.

Such children should be set particularly to put and keep things in order about a house or the surroundings. If any thing should be out of place, they, above all others, should be set to put it in place. If they must go, in case of need, up into the garret, down into the cellar, to some distant out-house, or away into a field, so much the better. The farther they shall have to run, the more impressive and profitable the practical lesson. This sort of task should be made an imperative duty, to be continued as long as is necessary. By this discipline, such faulty organizations will be forced into the desirable habits, even against their own natures.

There is a neatness in work, and in the way of doing a thousand little things, which many people, for the lack of early education, do not possess. They will drop and slop, spill and spatter, in every direction, simply because they are not trained to steadiness of hand, carefulness of the foot, or quick observation of the eye. Pains and perseverance with such children will save much trouble under the parental roof, and will prevent them, doubtless, from

An appeal.

innumerable discomforts and a thousand chagrins in their own future home. But let it be especially remembered that example will be unspeakably more powerful than precept. The young will hardly practise order amid the surrounding confusion of their elders. The disorder in which they have been brought up, and to which they have been from the earliest accustomed, is quite likely to be the earliest and habitual experience of their own rising families, and to become, possibly, the unprofitable inheritance of generations still beyond.

AN APPEAL.

Parents! for your own sakes in the dear home; for the sake of loved children in their future abodes and vocations, and for the sake of that common usefulness which every one owes to his kind; for the sake of some higher and wider good your son or daughter may be providentially called to accomplish, do not omit a duty comparatively so easy as the one now enjoined. Train your young families to that methodical arrangement, to that best order which is so necessary to give to art and indus-

An appeal.

try, and to all virtuous endeavors, the highest success. By such a habit, work that *must* be done, however coarse, may be done in a way which is not only the shortest and the easiest, but which may have even something like a gracefulness about it. By this, the humblest task may have an adornment.

The inferior animals, each after its kind, are orderly by instinct, and might instruct the intelligences put over them in dominion. Inanimate nature, close by and all around, teaches those who labor in its midst the same lesson. How instructive are soil, water, air, heat, and light, as they work and build up blooming and fruitful vegetation! The same wisdom comes from the far silent heavens: with a power mightier than any human speech, they proclaim the *necessity* of system. They show forth the beauty, the majesty, the divine perfectness of order, while they declare the glory of God.

CONCLUSION.

OTHER specific topics belong to the subject of these suggestions, and might properly have been considered. But this division of the volume has been extended much beyond the original design. It is hoped that the patience of readers will hold out for some closing thoughts, which may still farther elucidate and confirm the theory presented.

It is a well-known fact that the majority of mankind do not begin to study specifically and minutely the substances on which they are to operate through all their industrial lives until they get into apprenticeship or into actual business. Then there must be disadvantage and loss, for a time, in proportion to the ignorance. In some cases, this ignorance continues quite palpably and injuriously through all their vocational course. Now the training which has been indicated is a process of fitting one, in a degree, for all sorts of business whatever—a process begun with the very opening of the eyes and the putting forth of the hand.

Indeed, Nature is continually striving to educate the perceptive faculties, and would really double and quadruple their development and attainments if we would let her have her own methods, and lend her a helping hand amid the multitude of objects which might confuse the young learner's attention.

There are certain individuals whose peculiar organization will make them sharp-sighted; will place things, and all their qualities, before them just as they are, in spite of the distracting circumstances of number, variety, and even disorder; but these are comparatively few. The majority need help and showing, that the most may be made of the materials around. This must be evident from the exercises in objects and qualities which have been here proposed; for how few, without advice, would pursue these matters in the best way, and to the most profitable extent! Indeed, how has the whole world gone blundering along with the idea that education consists in words—words wide apart from the things to which they belong! It has scarcely occurred to educators generally that, in presenting things to

How a good judgment comes.

the learner, they must almost necessarily present words—nouns, adjectives, and verbs—which would stick to these things like their color in the daytime, or as their temperature does both day and night.

HOW A GOOD JUDGMENT COMES.

There is a common saying about certain individuals something like this: "He has an excellent judgment; he is remarkable for his judgment." Now what is meant? It is this: He knows what things are in their qualities and relations, and he knows what to do with them to the best possible advantage. Innumerable instances in the various avocations of life might be adduced in illustration. How common it is for a citizen to be called on to appraise the goods of a neighboring estate, or, as a public officer, to make valuations of property for taxes! In such cases, a practical knowledge of commodities is all-important. We may take the most striking and instructive instances from these very times. Millions of money are lost to the nation through the ignorance of commissaries, quarter-masters, contractors, and

Vivid recollections important.

other providers for our armies, through the lack of that early and continued education of observing faculties which has now been advised. If the loss, for the most part, comes from any other cause, it must be from a criminal dishonesty, deserving the punishment of a penitentiary from a cheated country.

VIVID RECOLLECTIONS IMPORTANT.

Furthermore, a great deal of business is done in the way of trade without the actual presence and inspection of the commodity to be bought and sold. In this case, much is to be trusted to the honesty or honor of the seller. Nevertheless, a great deal depends, on both sides, upon the actual knowledge of things previously acquired. Without such knowledge, the buyer must take the seller's word; and without this knowledge, the seller himself may unintentionally mislead; for in both of their memories and conceptions there may lie a confused mass of things, designated by certain names. As for the absolute qualities, fitnesses, and values, it may be the merest guess-work with both. Or, if but one of the parties is ignorant,

Distinguished men.

he must go by guess, or trust implicitly to the integrity of the other. Now, let a thorough acquaintance with objects and their qualities be obtained, and there they lie in the memory in all distinctness. There is no confusion. The mind's eye sees similar commodities in the distant ship or warehouse, or any where else, about as clearly as the physical eye would see them lying beneath the face. The memory, as a general rule, performs its office well or ill just in proportion as the original perceptions are disciplined and developed; so that, in a large portion of business transactions, what is good judgment depends on distinct and accurate recollections.

DISTINGUISHED MEN.

The histories of many distinguished persons show that a culture quite independent of prescribed educational forms made them useful and eminent. Among the extraordinary men of our own country are those whose literary advantages were exceedingly limited. They simply exercised their naked faculties on whatever came before them, or lay in any provi-

Distinguished men.

dential line of duty. They might have had some one power, like individuality or eventuality, in uncommon strength. This, spontaneously leading the way, might have brought concomitant powers into action and increasing ability. All the faculties were employed upon the objects, the events, the realities of the present world and state of things, while their privileged contemporaries were engaged on abstract books and chapters, sentences and words. Though these students of real life might be quite inaccurate in the nice uses of language, yet they obtained the weightier matters of a useful education. Such men, nevertheless, generally possess an adequate ability at expression, as far as it is necessary simply to convey their own ideas. Indeed, these observers and doers have often a remarkable facility of speech. This comes from the very nature of their education. They somehow pick up words appropriate to all the things, qualities, relations, actions, and transactions within their notice, and those words are presented naturally and easily with the subjects to which they belong. If there be any defect at all, it is that of some

Books.

little point which they might have rectified themselves, as many do, by a strenuous and determined self-discipline. The strongest men in our nation, the centres of momentous circles of affairs, may be excelled by school-girls of fifteen as to verbal and grammatical niceties. The ability adequate to the presidency of the nation or to a cabinet secretaryship does not depend on verbalities obtained at school or college, but on an acquaintance with things, and actions, and principles—a knowledge of individual, social, municipal, civil, military, national, and international realities. Washington's success at the head of armies and administrations was the result of that sound judgment which had been matured amid present substances, passing events, and pressing emergencies.

BOOKS.

Let it not be supposed, by what precedes, that an unwarrantable discarding of books is advised. It is simply meant that books shall not come into use so early, so numerous, and so unintermittedly as to stifle and dwarf the

Books.

faculties instead of aiding to strengthen them. The distinguished men alluded to improved themselves by reading as they had opportunity; and, in one respect, they read with a peculiar advantage. Their preliminary experience with the world's naked realities enabled them to take hold of language with a strong, effective grasp, as if words were palpable handles to the meanings underneath. They labored, however, under many and great disadvantages. Their improvement came without system—now and then—here a little, and there a little.

With our present command of means, we should seek for our children that education which begins exactly in the right place and at the right time; which proceeds also in the best order, and in those directions, and to that extent, which shall make the largest and fullest measure of good.

Dear fellow-educators! with what gentle touches of nature's elements, as with his own tender fingers, does the infinite Parent awaken his immortal offspring to consciousness and thought! Why shall we not follow these di-

vine intimations? Be assured that they run, with unbroken continuance, into grand rules of development and great infallible signs along the way of everlasting progress.

A LETTER FROM THE AGENT OF THE MASSACHUSETTS BOARD OF EDUCATION.

“Rev. WARREN BURTON:

“MY DEAR SIR,—Your hints on ‘Object-teaching’ will accomplish much good, if they lead parents to the early and proper discipline of the observing faculties of their children. So far as relates to intellectual training, I heartily concur in the sentiment of Ruskin, ‘The more I think of it, I find this conclusion more impressed upon me, that the greatest thing a human soul ever does in this world is *to see* something, and tell what it saw in a plain way. Hundreds of people can talk to one who thinks, but thousands can think to *one who can see.*’

“The importance and methods of ‘Object-teaching’ have been a frequent topic of my lectures at teachers’ institutes and normal schools for more than six years. The system is gradually working its way into our schools, and, when in skillful hands, with the happiest results. I have spent several weeks during the last year in visiting the best ‘object-schools’ in the country, especially in New York, Albany, New Britain, Conn.,

Toronto, C. W., and Oswego, N. Y. This system has been more fully and successfully applied in the schools of the latter place than any where else in this country. As a result, the primary schools of Oswego, which a few years since were in a low condition, have been raised to a degree of excellence probably not surpassed, if equaled, in this country. I visited all the schools of the city, with a single exception, in order to observe the working of the system under a great variety of circumstances, and with all classes of children, the rich and the poor, Germans, French, Irish, and Scotch, as well as Americans. So celebrated have these schools become, that Oswego is now a sort of Mecca for educators from nearly all the loyal states. During a visit of less than two weeks in that city, I observed representatives present from several distant states, including teachers, committees, and superintendents. This, I was told, was but the usual number of visitors from abroad. While I should dissent from some views and methods there adopted, the system, as a whole, is, in my judgment, practical, philosophical, and admirably adapted to young children.

"But this drill ought to begin long before the school age. *The parent* should daily give training-lessons in common things. I value this book as one designed and fitted to make parents 'object-teachers,' to convince them that the facts

and objects surrounding the child in every-day life should be the earliest and most effective instruments in developing his powers, and that thus habits of close, accurate, and exhaustive observation should be early formed.

"BIRDSEY G. NORTHPROP,

"Agent Mass. Board of Education."

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NOTE.

That more inviting words might greet readers at the opening of the book, this preface-like explanation is placed at the end. Many years ago, the present writer, in lecturing on early intellectual culture, together with moral and religious education, earnestly urged the discipline of the observing faculties. He then had not the remotest idea that this discipline, as an indispensable requisite, would be so long neglected; for it was at that time practiced in European schools, and advocated also by eminent writers in our own country. More than twenty years, however, have elapsed since his first humble efforts and sanguine expectations, and yet but little progress comparatively has been made in this direction. In reflecting on this great educational deficiency, it came forcibly to mind that a much-needed help might be rendered to the family and the school by publishing something similar to his former utterances. The lectures alluded to were mostly extemporaneous. By the aid, however, of a single written passage which makes a few of the first pages, together with some brief notes, they have been substantially recalled to memory, and, with the interspersions of fresh matter, they constitute the body of this work. The original extemporaneous style in a degree ran into the composition. This will account for occasional looseness of construction and every-day phraseology, which it is hoped will be rather agreeable than otherwise to the majority of readers.

W. B.

OBJECT TEACHING,
AND THE
CULTURE OF THE PERCEPTIVE POWERS.

FROM THE AMERICAN LITERARY GAZETTE AND PUBLISHERS'
CIRCULAR, SEPTEMBER 15th, 1864.

"There is no royal road to learning;" but neither is it necessary that the acquisition of knowledge should be made hateful to youth. The young mind is ready enough to receive information; it craves facts, but it requires them to be in a nutritive and digestible shape. All children ask questions. Some parents endeavor, with more or less success, to satisfy these inquiries; others turn the inquirers over to the school-master, holding it to be his duty to attend to the brains, and the parents' to care merely for the bodies of their children. Yet others discourage the questioners. The school-master, unless he be a man of genius, is apt to furnish words and phrases, where the child wants facts and ideas; therefore schools are so often hateful and unprofitable to the most intelligent of the children, and men are found to

declare that in their boyhood they learned more out of than in school hours.

Within a few years an important improvement has obtained in this country in the theory of education. Intelligent and thoughtful teachers observed the pleasure which all children take in the observation of natural objects; they noticed that, while spelling and reading are a weariness, the young learners never tired of studying the varied and interesting objects of nature which surround them. "Suppose we should attempt to answer these many questions of the children?" they said. "Suppose that, instead of teaching them to read in dry books, conveying no useful or interesting information, we should provide them lessons which should gratify their desire to comprehend the nature and fix in their minds the shape and use of the various natural objects which so excite their curiosity?"

Out of this suggestion has arisen quite a school literature—a series of works of remarkable merit, intended to help parents and teachers to answer, instead of repressing, the inquiries of the children, and thus to foster and develop, instead of discouraging, the burning desire for real knowledge.

The system of tuition which has thus grown up is rightly called "Object Teaching." It aims to satisfy the craving of the child or youth for practical information; it recognizes the important fact

that children are the most practical of beings, who refuse phrases, and demand constantly *facts*.

"Object Teaching" did not originate in this country; it has been practiced in Europe in the best schools for many years; but the most complete literary aids have been furnished by American teachers and authors, and this from the reason that while common school education is universal in the United States, the great mass of our youth must turn early to trades and business pursuits, and have no time, after they leave school, for the study of text-books.

The principle of "Object Teaching" is, therefore, peculiarly and admirably adapted to the practical, common-sense character of the American mind. It has been seized upon with avidity by parents and teachers; and its success is exemplified in the number of books which have been recently published, either directly relating to the subject, or involving the use of its principles. SHELDON in his "Manual of Elementary Instruction" and his "Model Lessons on Objects," WELLS in his "Graded Schools," and "LILIEN-THAL and WELCH in their "Object Lessons," and several other writers, have endeavored to help the teacher to correct notions of "Object Teaching." But among the series of works bearing upon the subject, those of Marcius Willson, E. A. Calkins, and Worthington Hooker merit special

mention. These works, published by Messrs. Harper & Brothers, and got up with great care and at a heavy cost, are furnished with many hundreds of wood engravings, executed in the best style of the art, and especially for the books in which they appear; they are admirably suited to the use of parents as well as teachers, and they are graduated for the instruction of children of all ages.

Dr. Hooker remarks in the preface to one of his excellent series, the "Child's Book of Nature," that "the inquisitive observation of children is commonly repressed instead of being encouraged and guided. The chief reason for this unnatural course is, that parents and teachers are not in possession of the information which is needed for the guidance of children in the observation of Nature. They have not themselves been taught aright, and so they are not able to lead others aright. In their own education the observation of Nature has been almost entirely excluded, and they are therefore unprepared to teach a child in regard to the simplest natural phenomena." He might justly have added that they have not even been taught to observe. Most men see without perceiving, excepting in the case of those objects with which they are most intimately connected by business pursuits. Their children see more of all objects about them than their parents. How should the latter be able to guide and instruct

this faculty of minute and intelligent observation, when they have themselves lost it?

Now the excellence of these works of Hooker, Willson, and Calkins, and of others of the class, consists in this, that they suggest to parents and teachers how to observe natural objects, how to call the attention of children to their qualities and parts, how to explain them, or cause them to explain themselves. They make teaching what it ought to be, a pleasant pastime, rather than what it too often is, the hopeless drudgery of a drill-master. This is especially true of the two "Manuals of Instruction in Object Lessons," by Professors Willson and Calkins, works which may be regarded as quite a boon to the anxious mother and to the conscientious teacher.

Dr. Hooker's series, beginning with the now well-known and well-approved "Child's Book of Nature," and including a "Natural History," a "First Book in Chemistry," a Chemistry for more advanced pupils, and a "Natural Philosophy," and soon to be enriched by the addition of a carefully prepared text-book of "Geology and Mineralogy"—all fully and carefully illustrated—completes a library of School and Family Text-books which is without a rival. In Dr. Hooker's, as in the others, the labors of the teacher or parent are lightened by judicious helps, hints, and suggestions; the instruction is conveyed in fa-

miliar language, and the aim is to satisfy the intelligent curiosity of the child or youth, and teach him to observe correctly and minutely, and encourage him to investigate the mysteries which surround him. With the help of these books, question-asking children need no longer be a "bore" and "bother," and parents as well as teachers will find it an easy pleasure to gratify and encourage the questioners, whom now they too often repress.

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