ELEMENTS OF THE LANGUAGE OF SIGNS
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day garment, but woven into the habits of her every-day life. She *said* but little of her own feelings; but in all things proved herself a consistent, intelligent, practical Christian. During the last years of her life, the Scriptures were her especial study. Aided by the best commentaries, and by standard works on theology, she employed much of her leisure in comparing Scripture with Scripture. Her views of divine truth were clear, and her reliance on the Saviour unfaltering. Nor did her hope and faith fail her in the last dread trial, for her death-bed was one of those that, while they awe, purify and elevate the soul of those present, and confirm the faith of the Christian.

ELEMENTS OF THE LANGUAGE OF SIGNS.

BY HARVEY P. PEET, LL. D.

THE language of signs is, in its elements, strictly a natural language. It is the native language of man, for it is the language to which all men instinctively have recourse, when they can not avail themselves of words. To those unpracticed in communicating ideas without the assistance of words, or of characters directly representing words, any particular dialect of the language of pantomime, especially when employed with the ordinary rapidity of colloquial intercourse, would be, at first sight, quite as unintelligible as any other foreign language. But two persons accustomed to communicate ideas in pantomime, though perhaps natives of opposite sides of the globe, and with sign dialects the most diverse, will readily exchange all familiar ideas at their first meeting. Thus it has been found that savages from the banks of the Missouri, and even natives of China, could converse to some extent in pantomime, with pupils of our institutions.

There are certain elements common to the pantomime every where, as the expression of the countenance, such gestures as are naturally prompted by strong emotion, and the

imitation or delineation of the actions, motions and outlines of objects. These elements constitute a truly natural and universal language, and by recurring to these, the less natural signs adopted in a particular dialect for convenience, or expedition of intercourse, can, with more or less circumlocution, be explained. This power of interpreting itself, is a peculiar advantage of the language of signs;—for spoken languages, unless interpreted by gestures, or by pointing to the objects, qualities or actions spoken of, can only be interpreted by means of some other spoken language.

Most of you will probably recollect reading in the narratives of travelers and navigators, and especially of men unfortunately shipwrecked and thrown among savages, of interviews between parties, neither of whom knew a word of the other's spoken language, yet who were able to discuss, by such signs as nature prompted, or as were invented on the spur of the moment, subjects of the very highest importance, involving peace or war, plenty or famine, liberty or slavery, even life or death. To cite the first example that occurs to me, I would refer you to the interviews of Captain James Riley with the Arabs of the great desert, soon after his shipwreck.

In such cases we see the value of some previous skill in pantomime. Persons accustomed to this mode of communication, will make signs with a degree of significance as astonishing to the unpracticed, as the rapidity and correctness with which an experienced draughtsman will delineate objects by a few strokes of the pen.

To give you some idea of the language of signs, it will be best first to describe the different elements from which it is formed.

The simplest class of signs are those denominated *signs of indication.* They consist merely in pointing to the object concerning which we wish to give direction, or ask a question. This mode of communication admits of more extensive use than you would, at its first mention, suspect. What is more common than to ask for any article in view by simply pointing to it, and holding out the hand to receive it?

Who would be at a loss to require, from a domestic, any ordinary service, by pointing to the instruments to be employed, and the objects to be operated on? If you were to hire a workman entirely ignorant of the English language, you would still find no difficulty in directing him to cut down a certain tree, or to mow a certain meadow, by simply pointing to the tree or the meadow, and if he is not at the moment provided with the tools, giving them to him, or pointing to them, or to the place where they are deposited. A man who should ride up to a blacksmith's shop and point to a shoe loose on one of his horse's feet, would need no words to explain that he wanted it fastened. As little would words be necessary to express the meaning of one who should point me to a broken tire on one of my wagon wheels, or other dangerous and obvious defect.

By the aid of a suitable expression of countenance, denoting questioning, certainty, or doubt, many questions can be asked and answered with as little difficulty. For instance, you may ask the price of any article, by pointing to it, and then showing several pieces of money, or counting on your fingers. You may ask the way a person intends to take, by pointing to himself, and then in different directions. With a little more contrivance, you may ask whence he came, by bringing the finger back from different points. Similar signs will satisfactorily answer such questions, only changing the expression of the countenance. Of course the same signs thus used in answering questions, may also be used in volunteering information.

If with the inquisitive expression which denotes a question, you should point to a scar, a bandaged wound, a torn garment, or the like, you will be universally understood to ask how the accident happened, and you may also ask who did it, by pointing to different persons. You can readily ask for any absent person by pointing to his accustomed seat. Other modes used by deaf mutes to recall absent persons, are, indicating their size and height, pointing to the place of a scar, a peculiarity of dress, or the like. Such signs, however, are often entirely arbitrary. Not to multiply instances

of the use of these signs of indication, the ownership of any piece of property may be asked and told, by showing it and presenting the hand toward different persons. Finally a great variety of questions asked either in words or any other way, are, in thousands of instances, answered by persons who have no idea of the language of signs, simply by signs of indication, and often too, by those motions of the head which are universally understood to signify assent or dissent.

Not inferior to the former in universal intelligibility, though more difficult for the unpracticed to imitate correctly, are those classes of signs which consist in the natural expression of the emotions, and in the imitation of human actions.

Though comparatively few can call up the exact expression of the passions at will, yet none can mistake them when skillfully represented. Who, for instance, ever failed to understand the gesture of invitation, or its opposite; of menace or of aversion; the impassioned gaze of the lover; the firmness of courage; the shrinking of apprehension; the swell of pride, &c.

The imitation of actions is, as you will perceive, equally intelligible, and thus nearly all things belonging to the outward life and daily avocations of men, can be correctly imaged. Even when the tools and materials are wanting to complete the picture, very few will fail to understand a skillful representation of a shoe-maker, tailor, blacksmith, weaver, mower, raker, plowman, sower, swimmer, &c. So of washing, shaving, dressing, combing, churning, milking, kneading bread, spinning, knitting, writing, reading, walking, driving, praying, shooting with a gun or bow, fishing with a line or net, rowing a boat, sawing, planing and boring, climbing, whetting a knife, razor or scythe, and in short, the list might be extended *ad infinitum*.

The imitation of the motions of animals will of course be less exact than that of human actions, but will be sufficiently intelligible in most cases, and sometimes strikingly characteristic.

A fourth class of strictly natural signs consists in delineating the outlines of objects. This, if done with some skill

upon paper, or even upon sand or snow, would of course be universally intelligible; but the deaf and dumb are accustomed to do it in the air. Where the outline is irregular or complicated, considerable practice is necessary both to trace it properly, and to retain in the mind the different lines as they are traced, till the figure is completed. But in some cases of marked and regular outline, it will be sufficient even for novices, to trace it in the air. In such cases the point of the finger traces lines, while the open hand describes surfaces. Thus the form of a circle, a semicircle, or any regular curve, a triangle, or square, or parallelogram, &c., may be distinctly traced by the two index fingers, while with the hands we imitate the form of a cubical or oblong box, a cylinder straight or curved, a cone or pyramid, a crucifix, or even a globe. In some other cases the delineation of the outline of an object may form the most convenient sign for that object—as a ladder, a candlestick, a serpent, a cart, or a bow.

There is another class of signs more artificial than those we have considered, and therefore, at first sight, less readily intelligible, but when the general principle on which they are formed is understood, they often become, not only more convenient, but more intelligible and distinct than such as are strictly natural. They consist in pointing to, or exhibiting certain objects, intending not these objects themselves, but the forms, positions, qualities and motions of other objects, which the objects pointed to or shown, may suggest. Thus, to convey the idea of a particular color, we point to any object in view of that color; in describing an absent person, we may indicate his general appearance, by pointing to another person of similar appearance. The expression of the countenance and the manner, to say nothing of the general tenor of the conversation, will sufficiently apprise one at all accustomed to converse by signs, whether the *objects* are meant, or their *qualities*, or which of their qualities. Thus color is denoted by moving the finger over the surface, as one would do to take off some of the color, if freshly painted; dimension in any direction, by seeming to measure it in that direction; weight by seeming to lift it, &c. Similar signs may be made.

to ascribe the qualities of objects which are not present, but the ideas of which can be readily recalled by gestures, to other objects less easy to be thus recalled.

One of the most important uses of the hands in sign-making, is to represent various tools or other objects, and parts of animal bodies: sometimes this is done by the position they are placed in, sometimes by the motions given them, sometimes in both ways. Thus the ears of an ass, of a horse, of a rabbit, the horns of a cow, of a deer, the trunk of an elephant, the snout of a hog, the bill, or the wings, or the feet of a bird, the hooked beak of an eagle, the broad bill of a duck, the tail of a fish, &c., are all represented by the hands and fingers, and these representations form the usual signs for those animals. The mane of the lion, the pointed nose of a weasel or of a rat, the whiskers of a cat, &c., are represented somewhat differently, by seeming to draw the fingers over them.

Various tools, and objects on which tools are employed, are denoted in like manner. Here we have a choice to put the hands in the position of holding and using the tool, leaving the latter, and the object to which it is applied, to be supplied by the imagination, as in representing the use of a plane, a scythe or a hoe; or to convert one hand or part of it into the tool, and give it a corresponding motion, sometimes also making the other hand or arm stand proxy for the object operated on. Thus we can represent the cutting down a tree, by imitating the attitude and action of a wood-chopper, actually engaged in that task, or we can do it with less exertion, and in less room, by holding up one arm with the fingers expanded to represent the trunk and branches, while we seem to hack upon it with the edge of the other hand, which now stands for the ax. The use of a saw upon a stick of wood; of a blacksmith's hammer, represented by one fist upon a finger made proxy for the hot iron; of a pair of shears, represented by two fingers opening and closing on each other; of a table fork, &c., present examples of the same kind.

The actual imitation of many human or animal actions, as riding, skating, dancing, jumping, trotting, would often ap-

pear too violent or ungraceful, or require more room and occasion more fatigue than might be convenient or agreeable, in familiar conversation. Hence it is often very convenient to imitate them on a smaller scale, with the hands or fingers. Thus two fingers often stand for the legs of a man, and represent clearly enough, the attitudes and motions of standing, kneeling, hopping, jumping, dancing, riding, (by placing them astride the other hand,) walking along a rail or other narrow object, (which is represented by a finger of the left hand,) &c. The motion of a horse's legs in trotting and galloping is distinguished in a similar manner. Skating is represented by giving to the hands, with the forefingers curved up, a diverging and progressive motion similar to that of a pair of skates; walking, by the hands put down and lifted forward like feet, and running, by moving them more rapidly. In this last case they may either represent the feet, or merely the hands of one who swings his arms rapidly as he runs.

From the elements which have been enumerated, are formed two classes of signs, technically denominated *descriptive signs* and *signs of reduction.* The former are used to describe objects unknown or unfamiliar to the person to whom we speak, or to recall familiar objects to the mind of one unacquainted with our dialect of signs; the latter are abbreviations of the former, used in familiar conversation. We will illustrate them by an example or two.

Suppose a deaf mute should discover a bird of rare form or plumage in a tree, and wish to call the attention of a companion to that object, he would do as any other person would do, if any obstacle prevented the employment of the voice. He would simply attract the notice of the other by some gesture, and point to the bird. This sign is called, as I have already observed, a *sign of indication.* But perhaps the bird may not readily catch the eye of the other, and to direct his attention rightly, it may be necessary to give him an idea what kind of object he is to look for. Here descriptive signs are put in requisition. The deaf mute will endeavor, by presenting a variety of such gestures as I have described, to suggest the desired idea. He will designate the bill and wings

of the bird, its manner of clinging to a twig with its feet, its size by seeming to hold it between his hands, its color by pointing to objects of the same color, sometimes perhaps the action of shooting a bird (elevating the gun as one would do to shoot into a tree,) and of plucking its feathers. These signs he will continue for a longer or shorter time, according to the importance of the object in view, his own vivacity of disposition, and his previous success in communicating with the same individual, and desist as soon as he either finds himself understood, or loses the hope of being so. If on one such occasion he has been successful, he will, when he next has occasion to speak of a bird, repeat such of his former gestures as had seemed most intelligible. At every repetition he will find himself understood with less and less effort, and will accordingly more and more abbreviate his pantomime, till finally, as soon as he makes the first sign of the series, he will find himself understood, and from that time that single gesture will denote the object. This gesture is a sign of reduction.

In these signs of reduction, there is room for a great variety of dialects, since it is in each individual case, pretty much a matter of chance, which of the various gestures that may be used to describe an object, will finally become established as the sign-name of that object. Thus one uneducated deaf mute may denote a bird by its bill, one by the act of flying, one by that of shooting into a tree, one yet by seeming to pluck its feathers, &c., and finally some will habitually combine two or more of these gestures together. But when a number of deaf mutes are brought together, as in founding a new institution, the most graceful, convenient and strikingly appropriate signs are selected from the dialect of each individual, and in a very short time, a common dialect is formed, to which all subsequent comers readily conform. This is usually still further improved by the care and skill of the teacher, and it is handed down by tradition to successive generations of pupils, generally receiving from each, some additions to its vocabulary, or improvement in its structure.

The use of signs in schools for the deaf and dumb, for the

definition of single words, as well as for the explanation of phrases and sentences, has originated a class of signs more precise, and more nearly equivalent to words than those used among uneducated deaf mutes. Thus for instance, we have a sign for *person* (formed by referring with the hands to the erect form of the human body,) and this sign, joined as a termination, or part of a compound, to the radical signs for actions or operations, denotes the agent or workman, equivalent to the termination, *er*, or *or*. Thus, the sign for *to sew*, with this sign for a person annexed, denotes a *person who sews*, i. e., a *tailor*, which may be farther compounded by adding the signs for *male* and *female*, or for the kind of garment worked upon. In like manner, are formed the signs for a *teacher*, *painter*, *spinner*, *weaver*, *beggar*, *servant*, etc.; but colloquially, the radical sign is generally used without the termination.

In some cases, there is room for the exercise of ingenuity in selecting a convenient sign that shall be characteristic of a given trade or profession. Among the deaf and dumb, a *physician* is one who feels the pulse; a *dry goods merchant* is one who measures cloth; a *carpenter* one who pushes a plane. It may be added, as an instance of the mode by which precision is obtained in the language of signs, that when we have occasion to speak of a *plane*, we first indicate, by the hands, its size and shape, and add the action of using it. There are other signs also, used as terminations, designed to make signs more nearly parallel with words, for the analysis and *verbatim* dictation of sentences; *e. g.*, signs to distinguish the parts of speech, as the *adverb* from the *adjective*, or the *noun* from the *verb*, (*e. g.*, *wildly* from *wild*, a *walk* from *to walk*,) or the accidents of *mood*, *tense*, *case*, etc. Signs of this kind are what are properly called *methodical signs*. They are never used *colloquially;* but are of use in the school-room for the analysis of sentences. For the purposes of *dictation*, they are now but little used.

As in all other languages, so in the language of signs, there is a tendency to make one radical term, by modifications and compounding with other terms, serve for the representation

of a variety of ideas. And in a language of comparatively recent origin, (as the cultivated dialect of the language of gestures is,) the number of radicals is naturally fewer than in languages that have been cultivated and expanded during many centuries. For example, the sign for *shearing a sheep*, formed by the fingers for the shears, moved over the left arm for the sheep, is the radical from which are compounded, or derived, the signs for *ram*, *ewe*, *lamb*, *wool*, and *woolen stuff*. In like manner, the action of *mowing* may stand according to connection, or according to other signs joined to it, for *hay*, a *scythe*, a *mower*, or a *meadow*. It is observable that compound signs differ from the general order of words in English compounds, in that the principal term is placed *first*, instead of *last*. Thus a Roman Catholic church is a house of worship for those who make the sign of the cross; and is ordinarily represented by making *first* the sign for a house of worship, and *then* signing a cross upon the forehead.

It may gratify those readers to whom the language of signs is yet a novelty, to give a few instances of those employed in our institutions. A house is signified by laying one hand alternately over the other to denote its successive stories, and then joining the hands at the top in the form of a roof. This sign for a *roof*, repeated several times while the hands are moved round as it were over an area, denotes a collection of houses or roofs, i. e., a *town* or *city*. The hands with the fingers running horizontally and somewhat apart, are made to represent a *rail fence*, and carried around an area for a *field*. The same sign with some amplification and additional emphasis expresses the country. The sign for a field, with the addition of the sign for turning the earth with a plowshare, (the right hand pushed forward as if it were the share, and turned over as if it were the sod,) represents a *farm*. The rising and falling motion of the waves, expressed by giving the hands a motion as if floating on their surface, denotes a sea or other great piece of water. The hands are joined together in a manner the reader will easily conceive, and receive a like motion, to figure a boat. The hands and fingers are also made to represent the upward forky and wavy motions

of *flames;* to which the appearance of blowing as if to kindle the flame is generally added. A single finger, held upright, and blown upon, denotes a *candle.* *Rain* is denoted by figuring with the fingers of both hands at once, the irregular descent of the drops or streams. Snow by the same sign, with the addition of the sign for white, (usually formed by seeming to pass the fingers over the ends of the white cravat formerly in general use.) A quick motion of the finger, as if following the forked flash, denotes lightning. A steamboat is signified by the regular rise and fall of its beam; a masted vessel by holding up the thumb or the thumb and one or two fingers, to denote its number of masts, (the other fingers being closed,) and giving the hand the wavy motion already described; a rail car by curving the first and second fingers of the right hand downward in a slight imitation of wheels, and running them along the same fingers of the left hand, which now represent the iron rails. The two forefingers are placed parallel, curved upward and made to glide forward, for a sled or sleigh.

Hitherto I have only spoken of those signs which express sensible objects, actions or qualities; or those emotions and more simple intellectual operations which are attended by unmistakable expressions of the countenance. The reader will easily conceive that the elements which have been enumerated would fail to express ideas beyond the domain of sense. But the power of the language of gestures is not, therefore, restricted to ideas connected with sensible objects and actions. As in the first formation of all other languages, we supply the want of terms appropriate to moral and intellectual ideas by *metaphor* and *allegory.* To cite a few examples—*truth* and *falsehood* are denoted by describing, in the former case, a *straight,* and in the latter, an *oblique* line from the lips. *Theft* is denoted by seeming to take slily something from under the left arm; *justice* and *injustice* by denoting the equal and unequal height of the two scales of a balance; *to help,* by propping up the left hand with the right. This last sign is the radical from which are derived the signs

for *useful*, *to support*, *to save*, and other words expressing kindred ideas.

Similar allegorical signs are usually joined with the natural signs of emotions, as in the signs for *love*, *anger*, *pride*, *happiness*, *misery*, in which the expression of the countenance is accompanied by allegorical signs made by the hand over the heart. In many such cases, the allegorical gesture seems a necessary, and indeed the most prominent part of the sign. But though an awkward beginner might be understood, making these signs, without the proper expression of the countenance, (as a dull school-boy would be, reading with a false tone and accent,) this expression is necessary to make the signs clear and impressive. And he who makes signs not only gracefully, but with correct expression, is in this language an *orator*.

As the signs for *passions* and *emotions* are referred to the *heart*, so those for operations of the intellect, as *know*, *think*, *understand*, *forget*, *learn*, *teach*, are referred to the *forehead*. To *know* is to *have* in the *forehead* or *mind;* to *forget* is to *lose* from the mind; to *think* is to *operate* in the *mind;* to *understand* is to have an idea *enter* the *head;* to teach is to *impart* from one's *head;* to learn is to *take* into one's *head*.

Allegorical signs are also used, to a considerable extent, to express ideas of time. The general idea of *the future* is expressed by pointing *forward*, and of *the past* by pointing *back* over the shoulder, in each case with the open hand. *Present time* is denoted by a horizontal position of both hands, near the person. These signs form the radicals from which, with the addition of the signs for an hour, a day, a week, a month, a year, etc., are formed signs expressive of the long list of such phrases as *to-day*, *this week*, *this year*, *yesterday*, *last week*, *last year*, *to-morrow*, *next week*, *next year*, etc. The signs for portions of time, it will readily be divined, are made by referring to the motion of the hands of a watch, the daily course of the sun, the annual revolution of the earth, or the changes of the seasons.

The tip of one hand is struck upon the palm of the other repeatedly, to denote *often*, *frequently*, etc.; and the finger

describes a circle repeatedly for *always*. This last sign, made with more prolongation and emphasis, represents *eternity*.

Soul and *spirit*, by a metaphor common to most languages, are signified by seeming to form with the fingers a body from the breath. An *angel* is of course a *winged spirit*. Clinging steadfastly to some elevated point of support is an emblem of *faith*, and washing of *sanctification*. Rubbing out, expresses *forgiveness*. This is denoted by passing the right hand over the palm of the left, as one would do to rub out an accusation written on it.

Such is the mode in which, from such simple and natural signs as were described in the beginning of this paper, capable merely of suggesting simple ideas already familiar to the parties, a language of gestures is gradually formed, not indeed as yet fully equal in precision, and concentration of thought, to speech, but capable of expressing directly, or by circumlocution, every idea of the intellect, every feeling of the heart.

ON THE DISUSE OF NATURAL SIGNS IN THE INSTRUCTION OF DEAF MUTES.

BY J. A. JACOBS.

By Natural Signs, I mean signs used in the order in which ideas arise in the minds of the deaf and dumb, however some of them may be conventional or even artificial; by Methodical Signs, I mean signs following the order of written language, with the necessary grammatical symbols and inflections; although most of them be natural, that is, are naturally significant of the words which they are employed to communicate. These definitions must be kept carefully in mind, for the terms natural and methodical signs, seem to be used by different persons in different senses. Whether here used in the original and proper sense, and whether they are the best terms that might be employed, is immaterial; a definite sense being given to them.

Where ideas alone, and not language, are desired to be communicated, or are the principal object of communica-