

## **SESSION EIGHT - GRAPHIC PRAXIS (DRAWING AND THE USE OF TOOLS)**

It was suggested earlier (Session Five) (a) that in considering the development of constructive praxis the elements might be reduced theoretically to sizeless, formless points having no properties other than those indicating a location, and that the praxic information 'contained' by a pattern be considered as deriving entirely from the dimensional and directional relationships linking the points, (b) that locations (and changes of locations) are the traces of their behaviours (the translocations and - at the level of patterns of particles e.g. lines - transformations, deformations and re-orientations that they have undergone), and (c) that ultimately the behaviours of objects acted upon represent the movements (behaviours) of the organism producing these changes.

In 'drawing' we have continuous traces in which it is not difficult to imagine the elements that comprise them as having no form or size and, looking at young children, we can readily perceive that the permanent traces left behind are, at first, incidental to the movements producing them.

Certain of the child's movements tend to happen, and some are forced, to operate partially in one plane or another, particularly those in which a movement is made with part of the body in more-or-less continual contact with a surface. In this way patterns in a plane are produced by the part in contact with the surface. Should the surface be readily defaced and more particularly if the bodily 'part' is really a hard or friable inanimate extension of the body (a held object such as a pencil or crayon) traces of the movement patterns may be left on the surface.

Movements originally produced for their own sake, that is to say for the pleasures which specifically accompany them, come in due course to be used deliberately to produce the traces and eventually to be recognised as the source of them.

Recognition of a relationship between these lines and others found naturally, or the visually perceived edges of various structures, may follow and lead on to ideas of pictorial or graphic representation.

Thus movements in three-dimensional space come to be mapped onto a two-dimensional surface where duration and speed of movement are somewhat related to a length of line, and time-order to the directions and senses of the lines.

The learning to learn 'tool', here called 'drawing', involves not only praxic analysis and synthesis (see Sessions Five and Six) but, since it is usually effected through the agency of an implement which leaves behind residual traces of substances or otherwise permanently disturbs the surface in some way, also the use of a mechanical tool.

### The Development and the Use of Tools

A tool is an object or substance interposed between the action and the thing acted upon. The word 'tool' may be defined in various ways according to the interests of the definer; however, a tool may be thought of simply as an object (whether or not an artefact) which somehow extends the abilities of the user qualitatively or quantitatively, conferring the possibilities for novel skills or increasing the rate

and/or efficiency of the tool-user's activities as well as affording protection for his own bodily parts.

It is not necessary at this time to detail the way in which a child becomes a skilled tool user. Suffice it to say that his ability to retain his grasp on an object whilst giving his attention to the movements of the limb in which it is held, leads to his being able to give his attention to the extremity of the object and to its effect on other materials and objects. The use of the tool then shadows his use of space in reaching to grasp and dispose of objects.

All movements, once the focusing of attention (see Sessions Five and Nine) has reached a relatively advanced stage, and particularly from a level of nine months onwards, may be viewed as oscillatory and variational translocations of the part through which an action is being effected. Often, for example, this would be a grasping hand, an extended thumb and forefinger, later a pointing finger and in due course an object used as an extension of the body.

At their simplest then, movements may be seen to make (i) no contact or (ii) intermittent contact or (iii) sustained or continual contact. This distinction might be illustrated by a hand moving to pick up something, the actual picking up, or the sustained pushing of an object; however to establish the importance of the otherwise seemingly trivial nature of such a distinction let us imagine actions perpetrated through a held object and, further to emphasise the point, in a simple alternating manner. Now such an object may be shaken freely (as in waving a flag or shaking a rattle) brought intermittently into contact with a surface (striking or banging etc.), or kept in sustained contact with a surface.

Leaving aside the first instance, we may see that percussion may be utilised to produce sounds, to dislodge or deform a thing or surface, to drive in a nail, etc., whilst sustained force through an implement may be utilised in lifting (as in using a spoon, cup, saucepan, etc.), levering (including screwing), pushing and pulling etc., in spreading soft material and in defacing a surface. The latter types of operation, whether performed with some part of the body directly or through the agency of a tool, are those underlying the understanding of drawing or graphic praxis.

By early in the second year the child is normally so experienced in the wielding of objects as very early undifferentiated tools that within a few months all sorts of specialised skills are mastered. We often assume that the child of twelve months or so learns to use a spoon at that time but in reality opportunity simply allows him to exploit a much more basic tool-using capacity<sup>1</sup>.

Before turning to a consideration of the development of graphic praxis it might be profitable to discuss briefly the nature and origin of a child's motivation to action, his 'wanting' to do something, and also the role of (the process referred to as) imitation in learning.

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<sup>1</sup> The training of delayed children in the use of a spoon in feeding is often attacked in a misguided manner usually due to a confused idea of the order of developmental priorities (see Session Nine). A child's using a spoon to feed himself is not really very important. What is important is his capacity for being able to use or to learn to use a spoon; that is to say his basic capacity as a tool-user. Hence the vulnerable child should be encouraged in his use of tools and only incidentally in the specialised use of the spoon in conveying food from plate to mouth.

## The Rise of Interest and Motivation (Desire to do)

Those who attempt to encourage and accelerate or otherwise modify the development of young children must recognise and remain sensible of the fact that the acquiring of *novel* understanding implies an absence of motivation *to that particular end* on the part of the child. That is to say any understanding *to be acquired* by the child must by definition remain outside his awareness *until acquired*. Since the child cannot even recognise its existence except in the attenuated terms of his previously developed understanding, he cannot *want* to engage in or learn to do something entirely novel. Motivation cannot be related specifically to the understanding to be gained, for this cannot be anticipated, but is due to the anticipation of the renewed enjoyment of past experiences.

Of course a child is commonly attracted by certain perceived elements within an activity which is otherwise partly or largely outside his experience and this may involve him directly, or trigger off some activity of his own from which he may well learn, perhaps even come to an understanding of the activity which initiated his behaviour. Furthermore, with increasing general understanding the degree of novelty represented by new understanding lessens so much that of what the casual observer takes for new is really only a variation on the already understood and, in due course, new combinations of what is already part or wholly understood, related according to familiar ordering rules, will allow of the possibility of rapid expansion of understanding and leaps of insight; however, this in no way contradicts the previous statement whose practical implication might be summarised as follows:

The child engages freely in activities with which he is already familiar, the innumerable variations continually consolidating his understanding and enlarging his total experience. The various influences and constraints in force induce in the child's behaviour (at every level) potentially significant patterns whose very appearance leads naturally to their accentuation and in due course to their effects impinging on the child's awareness. From this time on the patterns and directions of behaviours will be noticed more by the child and come to be consciously considered. Deliberate attention tends to lead to increasing understanding of the behaviours and in time to their intentional initiation. This gives rise to or allows delay or postponement of anticipated activity and finally a capacity for wanting or desiring to engage in that activity. In short: **doing** leads on to **increasing frequency of doing**, and in due course to **noticing doing**, then **attending to doing** gives rise to **understanding the doing**, and (at last!) to **wanting to do**.

It follows that a child cannot be or become aware of the purpose of his activity until that activity is a regular component of his total behaviour and is itself understood.

Thus contrary to what might seem to be common sense, a young child comes to develop a capacity for feeling the urge to do something only as a result of his having previously behaved *as if* he had the urge; however, within the course of normal development this process acts from such an early stage and progresses so smoothly that we tend to assume that these urges arise 'spontaneously' and full grown from the child's activities.

For example we expect a child who can fit all the pieces of a picture inset-board into their proper places to notice when a piece is wanting. We further expect him, having

noticed the deficit, to hunt for it or at least to make some attempt to repair the anomaly/deficiency.

A remote child whose environmental influences have failed to force such behaviours on him may well show no concern at the lack of pieces that he would use intelligently if present, and may make no attempt to look or ask for the missing parts. Whether we interpret such behaviour as due to his being unaware of the fact that parts are missing or being unable to mentally recall such missing parts, or simply having little or no experience of responding in such situations by active searching or asking for absent objects and hence, for all practical purposes, being unaware of the possibility of consciously noticing missing parts and of deliberately setting out to look for them, is by no means always clear.

### The Place of Imitation in Fundamental Learning

It is commonly taken for granted that children learn by imitation by which is meant that a child noticing an interesting behaviour in another, accepts and incorporates it into his own repertoire of acts. Unfortunately for this assumption his registration of a behaviour implies recognition, whilst recognition implies prior acquaintance thus obviating the chance of a child's immediately espousing a completely novel behaviour.

It is of considerable interest that although a child's seeing the actual construction of a drawn or brick pattern normally facilitates his reproduction of that pattern as well as increasing the likelihood of a close likeness (a process usually referred to as 'imitation'), the actual manner of reproduction is commonly quite different from that which he apparently observed. In reproducing a pattern he has met with only as a completed form ('copying') it is in no way surprising that the child's procedure may little resemble the manner by which the model was actually assembled.

Such commonplace observations simply emphasise (i) that patterns are the lasting residues of complex sequences of behaviours and (ii) that the child's own behaviours and resulting residue patterns must consist of his *interpretations* of what he sees based on his own personal experience.

*Do then children 'learn' (i.e. increase their understanding) by imitation?* If, as it would seem, 'imitation' and 'copying' are similar operations, the former being necessarily prior in origin although continuing independently of the latter which also lays less stress on temporal order, it may be reasonable (though by no means necessary for the argument) to treat them as basically the same kind of process.

The question can be re-formulated in two parts:

- (1) Do children increase their understanding as a direct result of their imitating and copying behaviours?
- (2) Do children increase their understanding (i.e. take on novel understanding) directly from having observed it within the unfamiliar patterns of behaviours of others more advanced in this particular respect?

All understanding derives from behaviours which are designed by the organism on the basis of previous experience so that in a very true sense a child always acts from a model and as he develops in the early months and years he is more and more influenced by his observations on his environment. Eventually he comes to be able to

deliberately set out to reproduce patterns from clear-cut models, which capacity represents a very advanced state in the child's experience-gaining ability.

Hence the answer to the first question is necessarily, yes. Not only do children learn by applying a model-reproducing process, there is no other satisfactory way of gaining experience; however the second question is a very different one for here the implication is that the child recognises the basis of his future increase in understanding in the behaviour of another child, which is absurd (a contradiction in terms) for if he can recognise it, it is not novel to him. The answer to this question is clearly, no.

The importance of this distinction is that much teaching work with vulnerable and delayed children is planned and carried out on the assumption that the answer to the second question is, yes, so that problems in developmental progress really due to the erroneous assumption are often blamed on the child's primary learning impediment, whilst recognition and full acceptance of the ways that the child actually increases his experience readily lends itself to the design of formidable teaching methods.

### The Evolution of Graphic Praxis

It is not necessary here to retrace the earliest development of the child. The first activity which is of specific consequence to the development of drawing ability is the experience gained from the child's inadvertent striking or sustained pressure with a held object against some other environmental surface.

By nine months the child fairly commonly brings an object held in his hand into contact with another object or material he is examining. From this time he may give his attention to either the striker or the struck but towards the end of the first year his attention begins to be directed towards the effects produced by the held object on the other surface. It might be the sound of striking or scraping, it might be the conveying of food from dish to mouth on a spoon, or it might be the momentary noticing of the marks being left by a pencil or crayon.

During the next few months the child with opportunity comes to produce more and more frequent marks and by fifteen months is usually capable of deliberately attempting to produce a pencil or crayon line. His continuant capacity leads both to more sustained successions of attempts to make marks, and to increased duration of continued contact between pencil and paper.

Halfway through the second year usually sees the child producing prolonged lines deriving mainly from to-and-fro motions of the hand in the 'normal' or what is usually referred to as the 'vertical' direction. Gradually this continuous scribbling will evolve, as the arm movements become freer, into a stirring motion, producing circular scribble.

Meanwhile the (at first inadvertent) lifting of the pencil from the surface at the point of sense change, usually at the end of the line drawn *towards* the body, leads on to the deliberate production of 'normal' or 'vertical' strokes and, as the continuous drawing becomes rather more circular, in due course to more transverse strokes.

Two years sees the child able to make individual strokes in response to his seeing such activity in another, and within a short time to be able to deliberately change the direction or form of his scribbling during the activity itself (see 're-direction' of action in Session Nine).

Increasing amount and fluidity of movement in scribbling both 'pulling' and 'pushing' the pencil (basically bringing in [centripetal] and reaching-out [centrifugal] movements) give great experience of line production at various locations relative to the child's body, with the pencil moving towards or away from him<sup>2</sup> and by 30 months the child is making deliberate attempts to draw shapes or to imitate or copy patterns he has seen.

However attempts to reproduce models is greatly restricted at this time by the limited praxic experience based on the structuring of the bodily near-space (see Sessions Five and Nine) and, although at 33 months the child would have no difficulty in distinguishing between or in pairing examples of circles, V-shapes, simple crosses, squares and triangles, he would be unlikely to be able to reproduce reasonable facsimiles of the cross, square and triangle on paper. The relatively advanced child at this age, having seen the cross being drawn would probably make one bold strike, usually 'vertically' followed by an effortful, oblique second line at an angle to the first but not touching (often as if he is willing the line to meet and intersect its mate).

From this time, increasing experience in initiating and terminating lines in every direction and sense necessarily also provides experience of various link behaviours, connections and junctions, as well as successive combinations of lines which makes steadily more likely the deliberate employment of such sequences of lines and junctions. Fair attempts are soon (about 42 months) made to reproduce (imitate) relatively complex figures, as for example crossed lines enclosed within a circle, but a reasonably rectangular square may not be possible until five years or more.

In judging a child's graphic praxic ability it must be remembered that not only will total experience vary between children rather more than with 'brick building' praxis but some children will be particularly practised in certain conventionally familiar shapes, so that the finished product is not a very good guide to praxic ability. One child may quickly and fluently produce a neat and eye-pleasing shape whilst a praxically more advanced child generating the shape from his own analysis of the spatial relationships of the component lines and junctions might end up with a less aesthetically satisfying form. Usually, of course, the praxically competent child will regularly incorporate complete discretely recorded subordinates within his constructions but, when necessary, is quite capable of creating these from their elements.

As with three-dimensional constructive praxis ('brick building') the early use of a clear-cut model is subject, for a while, to the child's being diverted by his own production so that an initially satisfactory praxic analysis of the model may steadily lose its directing and controlling influence as his drawing comes to dominate the direction of his efforts. A drawing truly begun with one idea in mind may end up as something quite different.

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<sup>2</sup> Transverse strokes are usually made from or rather laterally beyond the midline (i.e. within the territory of the opposite hand and arm) by pulling the pencil towards the drawing-arm side of the body.

Always during the early stages the child will attempt to reproduce his interpretation of what he sees, drawing on his past experience of drawing such patterns as he has recognised. Hence his recognising a 'cross', whether or not he associates it with a linguistic label, will mean his re-creating his ideal cross rather than his copying that particular cross. On the other hand during his fifth year working from a picture of a cross ('copying') a child may attempt to build his shape from scratch so that one or more of the component lines radiates from the junction. This is more likely to occur when/where the cross seems not to be recognised as such, being part of a more complex structure.

Advancing praxic ability means planning the placing of each line not only relative to the others but also in relation to the expanse of paper; hence it is accompanied by improved balance in the proportions and truer orientation of the parts of the pattern.

At last the child achieves the ability to refer to a model, analyse its composition in terms of the positional (and functional<sup>3</sup>) relationships between the parts, orientation and possible order of its construction, whether or not any attempt is made to actually re-create the pattern in physical terms.

### The Practical Teaching of Fundamental Graphic Praxis - Drawing

It should be clear by now from previous discussion that our aim is not to train the child in drawing but to encourage his understanding of space and his ability to project some aspects of this understanding onto a two-dimensional surface. Therefore we are not primarily concerned with the drawing of shapes, designs and pictures, although such are the natural outcomes of increasing understanding.

In the first instance our objects are to have the child to increase his powers to

- devote more concentrated attending to drawing
- sustain contact between drawing implement and surface
- more frequently initiate lines
- start lines anywhere at will, to produce them in any direction and sense, and to terminate them at will
- deliberately change direction steadily or abruptly, where the production of angular deviation is perhaps a special case of starting a new line

Remember that any drawn line could be the end product of a great variety of behavioural sequences. Even confining oneself to conditions where a pencil is held in the fingers it is clear that a figure, say a circle, might be drawn, however uncomfortably, using trunk movements only, or a stiff arm, in whatever posture and moving the trunk, or by the forearm and hand, moving from a fixed elbow, or wrist movements or finger movements only. There would be no way of deducing from the finished product which parts and which postures were employed. Hence in order to maximise the child's experience, encouragement of graphic praxis should attempt to involve as much of the body and as many of the bodily movements as possible in the early stages. Later it is possible to ensure sufficient postural variation by the teacher's control of the materials used and conditions under which they are utilised.

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<sup>3</sup> Just as brick constructions contain key elements which physically support the structures and without which the configurations could not exist so certain lines in drawings perform similar functions.

To begin with it is very profitable to encourage vigorous exercises in striking and scraping with the extremities of various sticks on surfaces and target objects, such as boxes, cans, chairs etc., alternating the arms or employing one hand in support of the activity of the other (the target being held or moved from place to place with this supporting hand), and using the whole of the available space. Twisting, turning and reaching with the arms in every direction is essential to this learning activity as is the exploration of every amplitude and rhythm.

By utilising chime bars, glockenspiel, xylophone, drum, bells, etc., the game can be given a musical flavour but this must always be subordinated to the primary objective of exploring and experimenting with artificially extended arms. This activity should be very vigorous at first for many if not most developmentally-delayed children are remarkably inhibited when it comes to banging, scraping and poking with a stick (demanding laterally alternating hand movements of an inadequately integrated child may induce emotional upset, see Session Nine and later) and most parents and teachers do not spontaneously encourage 'banging' behaviours, perhaps as they are generally thought of as noisy and destructive; however like the vigorous twisting and reaching to pick up and put down exercises, the value of 'banging' games is difficult to exaggerate.

The earliest exercises utilising drawing, crayoning or painting can consist of any appropriate technique for inducing comprehensive examples of movements embodying the objectives listed above. These might range from simply modifying the circumstances within which spontaneous scribbling occurs, to the imposition by the teacher of both energy and direction, the child's hands being held and moved<sup>4</sup>.

It is convenient when encouraging the child to exercise every possible functional component in the use of 'drawing' not only to vary the size and position of the sheet of paper etc., but also to formally divide it into regions and directions. This rough division of the available space into regions and cardinal directions is helpful in ensuring a comprehensive sampling of resources. Clearly a line could be started anywhere and lead anywhere but a rectangular sheet might usefully be considered to possess eight points in addition to the centre. Each point really represents a region or domain within which a line might be started and produced in a number of directions. Each point may be thought of as having several main directions according to its location. For example lines from the centre might radiate in eight main

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<sup>4</sup> The business of 'causing' a child to act or to extend the range of his movements may for practical purposes be thought of at five levels, all useful but here in order of diminishing teaching value:

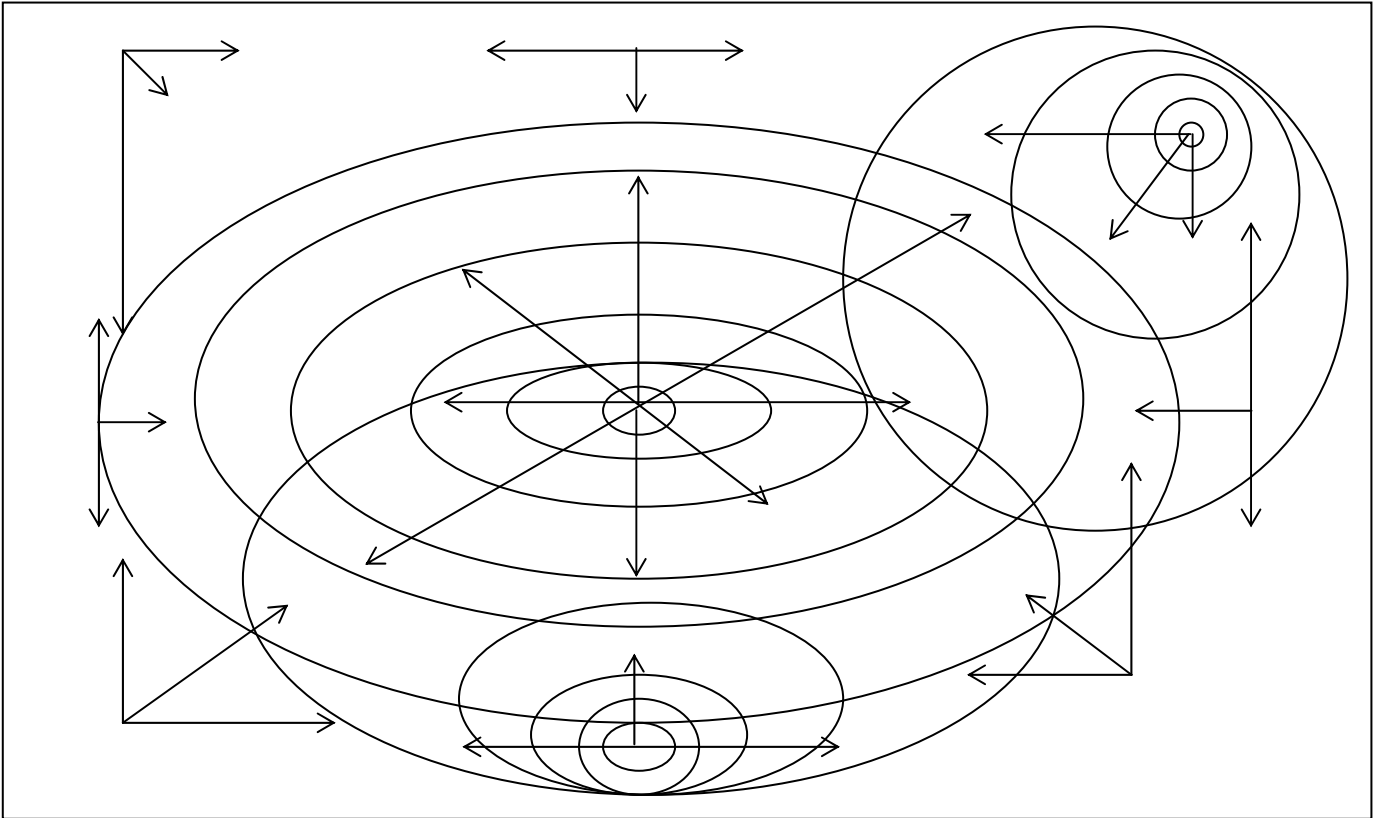
- (i) The child is simply provided with opportunities and conditions conducive to his exercising his abilities. This, of course, is what we normally mean by teaching, the art lying in the organisation of materials.
- (ii) Well-established but restricted or stereotyped movements can be caused to increase in vigour and to vary in form, amplitude and direction by the deliberate and careful use of obstruction which stimulates reactive effort, and promotes compensatory deviation.
- (iii) In the face of a lack of spontaneous activity, movement can often be evoked by the teacher's producing in the child an unfamiliar limb posture to which the child responds by reactively 'unwinding'.
- (iv) Vigorous 'passively imposed' and well-defined movements produced whilst holding the child's limbs loosely gives him some experience of being moved through a variety of pathways, but also allows active or reactive movements to occur within the general envelope of movement pattern;
- (v) Firm 'passively imposed' movements whilst holding the child's limbs tightly give some experience but are perhaps mainly valuable as encouraging the child's acceptance of imposition.



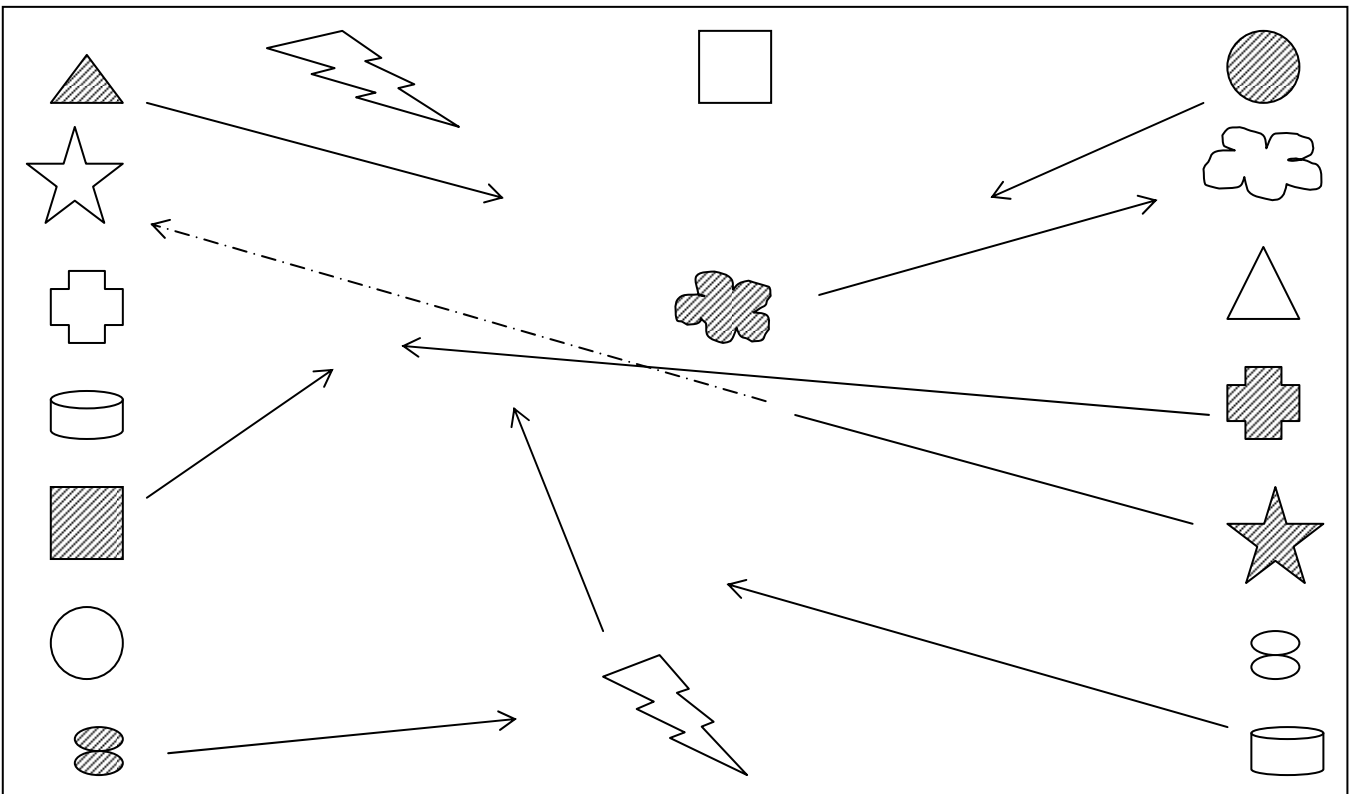
directions towards the sides and corners, whilst each of the marginal origins might be thought of as having at least three main directions (see FIGS. 1 and 2).

FIGS. 1 & 2

Cardinal points and domain guides



A simple but fairly sophisticated layout for a 'joining similars' game employing pre-selection of origins, termini and senses.



If these spatial and directional possibilities are borne in mind when encouraging the child in making marks at least a certain minimum use of the space and variation in execution will be ensured.

Meanwhile once the child is making purposeful strokes a variety of techniques can be employed. One, designed to encourage the systematic imitation and copying of patterns from successions of discrete lines, is an exact parallel of the technique for 'brick building' briefly outlined in Session Six. No explanation is given, of course, and no verbal instruction except possibly such as would remind the child to hold on to his pencil when he might otherwise put it down between strokes.

The teacher, seated behind and slightly to the child's off-side, helps the child *so far as is necessary* to hold and control his pencil with her ipsilateral hand, whilst holding the pencil with which she is to make the 'model' strokes in her other hand (contralateral to the child). Then to her own side of a large sheet of paper she makes a mark and immediately causes the child to make a similar one towards his own side of the paper. Later, of course, she will ensure that the copy is produced in any directional relationship to the model but at first it is the time sequence, the child producing his mark immediately after the teacher's model, that is important.

Suitable early marks produced and left isolated would be the 'normal' ('vertical') down-stroke, the pulled transverse stroke, also both of these in the opposite senses (i.e. pushed), and the circular stroke in both senses, (clockwise and counter-clockwise). The duration and length of these strokes can be varied by starting the lines further away or closer to the child's body<sup>5</sup>.

Double or angularly bent lines are perhaps the next form most profitably to be practised; up-and-down to form an inverted V, also down-and-up and the two transverse forms. Sometimes a second stroke, following the child's response, might complete a triangle or set a circle or a second V within the angle of the first, care being taken to vary the position, sense and length of the primary and additional strokes. Alternatively a 'vertical' line might be followed by one or more transverse intersecting strokes or the transverse line might come first. The possible permutations on the directions and senses will be apparent and the importance of encouraging a wide range of variation clear by this time. Gradually simple forms and combinations of forms can be built up, the child taking a more and more active part in the operation.

It may be necessary to reiterate the statement that *it is the child's **attempting** to reproduce the model that is being encouraged not his reproducing the model accurately*; hence no particular attention should be given to the finished product.

Up to this time I have referred to the teacher's encouraging the child's active use of the pencil and paper, and his early imitating and copying of a model; however the early development of two-dimensional graphic praxis culminates in the child's power to deliberately start a line at any selected point relative to his own body and to the surface on which he is drawing, and having produced it in any direction and sense, to any extent, with or without gradual or abrupt changes of direction en route, to

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<sup>5</sup> Such seemingly obvious (when read) suggestions are necessary for it is my experience that the most conscientious and enthusiastic teacher instructing a young or inexperienced child in drawing neglects some 95% of the available space, directions and senses in so doing.

terminate it at any required location. Such praxic understanding and control is necessary for the purposeful construction of a graphic pattern from a model. In addition then to exercises designed to increase total experience and to encourage attempts to reproduce models it is necessary to foster the planned use of space in drawing.

A very valuable exercise is one which directs the child to start each line at a given point and with a predetermined direction, sense and terminus. This is the process of joining point A to point B, a seemingly simple operation but in reality one requiring great experience and advanced fundamental praxic skill. By deploying pairs of dots, small shapes or pictures about the page, the child may be exercised towards this understanding by having him graphically connect those pairs which the teacher selects.

### Joining similars (or associated) patterns

In this activity the child, uses pencilled, crayoned or chalked lines to link discrete patterns on paper or blackboard. At first sight such an exercise might seem a trivial technique for practising 'matching', 'sorting', etc., however although there are innumerable games which can profitably be played using this technique it can be an extremely valuable exercise in the development of graphic praxis.

It must be recognised that the child who can produce a reasonably rotund 'circle' a cross, and even a well-proportioned square is not necessarily able to construct these figures exactly where he decided. That is to say his deliberately starting each line, producing it in the required direction to the necessary length with or without changes of direction, and linking it appropriately with the other components of the figure, needs great experience both with a pencil, etc. and in general praxic construction.

The use of 'joining similars' technique, employing certain governing rules, can ensure practice in initiating lines in virtually all locations, directions and senses relative to the child's own body and to the sheet of paper. As always both hands should be involved at all time as far as possible even if the second hand simply 'holds' the paper; however the technique of putting the point of the pencil to the starting point, finding and touching the index finger (not the thumb) of the second hand to the terminus of the proposed line, and drawing the line across to that finger, has the added advantage of encouraging the 'focusing' of attention through both hands and eyes, a need of particular importance to the child with primary and/or secondary movement disorder. The game can of course be extended in due course to sequencing, to X to Y correspondence mapping and to 'coding' games.

Important reasons for using joining up games include: -

- (i) Practising producing lines of definite origin, direction, sense, length and termination
- (ii) Practising 'focusing' the attention through the 'limbs'
- (iii) Practising tool-holding postures
- (iv) Practising the effective scanning of a limited space

- (v) Practising 'matching' (including scanning) or other 'tools'
- (vi) Practising sequential processing of the components

There are innumerable techniques available for encouraging the child to practise drawing or to facilitate his producing shapes. All of these, which include the use of dotted lines, tracing, templates and stencils, are useful; however his attempting to reproduce a model whether drawn, some three-dimensional object or scene, or an imagined form, is most basic to praxic understanding. The child's enjoyment of drawing can eventually allow him to struggle happily with the business of copying a model, learning all the while, and without being concerned about the degree of 'difficulty' or the opinions of others as to its accuracy or correctness.

Finally it might be worth pointing out that the use of pliable wire, thin sticks which can be arranged into patterns on a plane surface, various shapes (triangles, squares, oblongs, etc.) which are simply laid or nailed to a surface, forms a sort of link between three-dimensional constructive praxic activities and two-dimensional, usually drawn, activities.

It may already be apparent that certain constructions in both 'brick building' and 'drawing' have properties such that the sequential order of production is clearly of great importance. Even the systematic colouring-in of a shape is often of this nature. These ideas lead us neatly into the subject matter of our next session:

*'Sequencing and Seriation'*

GEOFFREY WALDON  
1976