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CHILD AND MAN

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CHILD AND MAN

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Editorial

THIS fourth number of CHILD AND MAN sees a change of editor. A. C. Harwood, who launched the magazine in its new form and has been responsible for the first three numbers, has been obliged to relinquish the editorship through pressure of other work. The Association for Teachers in Rudolf Steiner Schools has ratified the change, and I shall do my best to continue the work that my predecessor has started.

We are glad to be able to include in this number an article which appeared in Switzerland in *Das Goetheanum*, a weekly journal edited by Albert Steffen. Rudolf Grosse has long been a teacher in the Rudolf Steiner school in Basle and has made a special study of the subject of his article. A. C. Harwood continues his series of studies and Bronja Hüttner contributes an article on the teaching of languages, which supplements from another viewpoint the article on a similar subject by R. Wilkinson in the last number. The latter gives us another article, this time on the teaching of reading and writing.

To the list of books set out on the last page of the magazine, I have added two on Eurhythmy. This art of movement founded by Rudolf Steiner plays a fundamental part in the education, and is often referred to in articles appearing on these pages. Readers who find such references perplexing, are urged to consult these books, both of which may be had in translation.

As this is the fourth number to appear, many readers will require to renew their subscriptions. For them a form for doing this is enclosed.

H. L. HETHERINGTON.

Study of Man

If you endeavour to describe the nature of man from different sides—as Rudolf Steiner does in the lectures which bear this title—sooner or later the question will present itself: Why all this complexity? When the individual man feels himself to be a simple straightforward entity, why does he find, when he examines himself physically or psychologically, that he is in reality so complex a creature? Could not the Power that made him, have made him more simple?

If you endeavour to explain why things are so, you are always involved in the danger of an infinite series, every reason calling for a further reason to explain it. Nevertheless within a given province of thought, the human mind must always seek for a coherence which will explain the meaning of every part, even though remote issues are left out of account. To take a simple example, I can satisfy myself as to the function of every part of a bicycle in relation to the whole bicycle, and within its limits my account may be coherent and complete. But I need not go on to ask why men invented bicycles, or what is the force of the coherence of substance on which the existence of the bicycle depends, or what are the laws of gravity and friction which make its use possible. There is, indeed, the right point for every enquiry to stop; and perhaps there is a natural sense in every healthy mind when this point has been reached.

It is in connection with one of the great contrasts or polarities of the human being that Rudolf Steiner makes an observation that throws into sudden light the mystery of man's life on the earth. He has been speaking of the great polarity between the conscious and the unconscious spheres of man's life—or, in other terms, between thinking and will. Thinking expresses itself in the system of head and nerves, will in the system of metabolism and limb movement; while, as a mediator between the two, the feeling life is based on the rhythmical processes of heart and lungs. Coleridge in a characteristically fragmentary passage had described these three systems in his *Aids to Reflection*. "The cerebral system of the nerves has its correspondent antithesis in the abdominal system; but hence arises a synthesis of the two in the pectoral system as the intermediate, and, like a drawbridge, at once a conductor and a boundary." But it was left to Rudolf Steiner to base a whole psychology, physiology and philosophy on the threefold nature of man.

Now in the limb and metabolic (or abdominal) system, we are brought into direct contact with the world around us. Our feet press and knock on the ground itself; the substances of the earth enter immediately into our processes of digestion. But, where the head system is concerned, nothing of the immediate relation with the world is to be seen. To our eyes and ears the world sends only its finest vibrations; in our heads we make pictures and concepts of the world which are very different from the things they represent. A red hot poker will burn us; our thought, or mental image of a poker will not. When we are conscious we live in shadowy images remote from reality; we experience the true impact of the world and its forces only when we are conscious. What an astonishing thing that

man, whose glory lies in his consciousness, should here be removed from that reality which he is always in touch with, albeit unconsciously, in his limbs and digestion. As a picture of this state also, how wonderfully his head is preserved from any direct contact with the earth. With every step on the ground the heel inflicts and has inflicted on it a blow such as would quickly deprive the head of consciousness. Sensitive as it is, the hand can give a stunning blow to the head. For the whole organisation of the body is directed to protect the brain from any harsh impact from the external world. When we tread, every joint in foot and leg and spinal column is cushioning the blow from the head; and in the head the brain is actually floating in the cerebro-spinal fluid. Small wonder that our ideas and mental pictures, based on so abstracted an organ, become abstract themselves. But what is the real meaning of this remoteness? Can it form part of a really coherent picture of man?

The answer lies in the nature of the human ego. The human being is not all of an age. The physical body, incorporating such amazing wisdom, is the oldest part of man. The ego is the youngest—hence the deeds which proceed from human egohood often are so crude and foolish. But, being so young, it must, like a little child, be protected from the full impact of the world. It can only be conscious in the thinking life, where it lives in images alone. In the feeling life it can only dream; in the life of will the ego is asleep. For were it awake in the feeling and will life it would be brought into a knowledge of the great forces working in head and lung and digestion. And these are so overpoweringly stupendous that the ego would be shattered by them. It is an act of mercy which keeps us unconscious of the great processes of life by which the substances of our body are for ever created and recreated. This will not always be so. The child-ego will grow and will enter into spheres of experience at present denied to it. It is possible even at the present time to break the bounds of consciousness and seek initiation. But to those who can read the book of human nature, the form of man reveals the secret of human destiny. The whole house is got ready for the advent of the new-born child; the whole house of the human form is prepared for the ego—the child in man himself.

A. C. HARWOOD.

German Lessons with the Younger Children

YOUNG children delight in the creative powers of language. It is not difficult to observe how they love to dwell in the living world of sound, rhythm and image, which language creates for them. I have heard a little boy say to another repeatedly and with great emphasis: "Oh you crocodile, you crocodile!" There was obviously no malice in his words, but only sheer joy in their strength and expressiveness. Then again I have seen two children dragging skipping-ropes

behind them round and round the room, repeating a phrase in a regular rhythmic sequence and seeming never to tire: "M̃ twō lītłē m̃ce, m̃ twō lītłē m̃ce. . . ." Children's remarks point conclusively to the fact that it is the picture and not the sense which lives in the young mind: "Mummy, holly bears are red, aren't they?" or "My teddy's name is Gladly, because the choir sings in church, 'Gladly my cross-eyed bear.'" I also know a fat little boy whose favourite story for a long time was that of "The Seven Raisins" (ravens).

Every nation has a store of children's rhymes and songs, which spring ultimately from this deep love of the child for language, language which in the early years is actually helping to build up the organs of the child. After the change of teeth, the formative forces, which have been building up the body, are released from this function and become free as the forces of intelligence and in the sphere of the soul. At this point in the development of the child Rudolf Steiner introduces the learning of two foreign languages into the curriculum of our schools. Through this new activity the powers of the soul become enriched, they grow wider, looser and freer. The directness and artistry of the child's approach to language make it possible for him to gain a living understanding of, and appreciation for, the way different peoples express themselves. Such an understanding, since it is so direct, can blossom later into real sensitivity for what lives in another man's soul. This is a quality sadly lacking to-day, and one which is not acquired intellectually or on the basis of creating a new language, such as Esperanto, artificially.

Apart from this larger view, another and more immediate reason for starting foreign languages when the children are young, is that their speech habits are still flexible and comparatively unformed and therefore their speech organs lend themselves willingly to different accents and different pronunciations.

During the first three years at school, language teaching is entirely oral. The constant repetition of songs, poems, little dialogues, phrases and the like, provides an ample basis for the more conscious, grammatical handling of the language later on.

The German teacher is fortunate in having at his disposal a rich treasure-house of children's songs and poems, and the plastic quality of the language appeals to young children very much; but he becomes truly creative when he seeks to make use of those elements we have mentioned already: expressive sound, rhythm and imagery. The more actively and imaginatively he can use these elements, appealing directly to the child's will-life, and allowing the intellectual content to arise gradually and only as an end-product, the more will his lessons be a refreshment and a stimulus to the child rather than a burden.

There are a number of old counting rhymes which, being nonsensical, can appeal only through their rhythm and sound, but thirty-two children will wait quietly in a circle, their fists outstretched, waiting to see who is out, some listening eagerly and others joining in your:

am, dam, des
diese male press
diese male pumperness
am, dam, des.

[4]

When little commands, calling upon the will directly and needing no interpretation except by gesture, are put into a rhythmic form, they will be repeated gladly many times over:

setzt euch nieder, stehet auf, steht auf einem Bein,
setzt euch nieder, stehet auf, hängt euch alle ein!

or:

bückt euch
streckt euch
dreht euch rund herum!

setzt euch nieder
stehet wieder
still und stumm!

It is possible to compose characteristic lines for giants, gnomes, rabbits and so on, which the class can speak and clap in chorus, while one of the children steps or skips the rhythm:

Riesen rennen rasch daher
In die Kreuz und in die Quer.

or:

Häslein hüpfen husch, husch, husch
Über Blumen, über Busch.

The children are asked in turn: "Was willst du sein, ein Riese oder ein Häslein?" and after the answer is given in German too, the game can proceed. The children quickly catch your meaning, if it is helped along with gesticulation, and are very eager to come forward. They also have ideas of their own, and are prepared to be creative themselves. One little boy, who found the choice a hard one, said he would like to be a "Riesenhäslein," and as this is quite correct German, I could not refuse, but gladly accepted this new variation. He was also quick in grasping the meaning of "yes" and "no" in German, and when asked to join in a game he did not like, said politely: "Danke nein!"

One has to find ever new ways of repeating what is being learnt, by speaking loudly, softly, quickly or slowly, or by introducing slight variations in the verses themselves. An excellent example is the well-known rhyme of the musical instruments:

Kleins Männele, kleins Männele, was kannst du machen?
Ich kann spielen auf meiner Trum:
Rumbum bidi bum
So geht meine Trum, etc.

When I was teaching the children the colours and garments, I told them first of a little gnome, who unfortunately fell into a bog one day, when out for a fine country walk. All his fine clothes would have been irretrievably ruined, had not a kind fairy come to the rescue and produced a new article for every spoilt one.

[5]

So his cries of woe were turned into shouts of joy. The children took great delight in expressing the two moods:

O weh, o weh, o weh! Meine rote Mütze!
Hurrah, hurrah, hurrah! Meine rote Mütze!

O weh, o weh, o weh! Meine blaue Jacke!
Hurrah, hurrah, hurrah! Meine blaue Jacke!

O weh, o weh, o weh! Meine gelbe Hose!
Hurrah, hurrah, hurrah! Meine gelbe Hose!

and so on, as much as you like, not forgetting the umbrella and the handkerchief!

There is little need to mention the countless singing games, with actions, songs and poems, which abound in every language, and which are eagerly learnt, if introduced in a lively and colourful way.

Here in conclusion is a little play for springtime, suitable for children in their ninth year. In the main it is performed by the class as a whole; the children stand in a circle, occasionally breaking up into groups and now and again one or two children taking individual parts. This arrangement is good for children up to the age of nine. The children speak and step rhythmically and find this a great help.

THE END OF WINTER

WINTER:	Winter bin ich grau und alt Mach die ganze Erde kalt.
FLOWERS:	Und wir, wir sind die Blümelein.
BIRDS:	Und wir, wir sind die Vögelein.
CHILDREN:	Und wir, wir sind die Kinder.
ALL THREE:	Wir schliessen fast das Tor, So lang die liebe Sonne scheint Der Winter bleibt davor!
SUN:	Ich bin die Mutter Sonne Und muss zur Ruhe gehn, Schon sinken meine Strahlen Ich kann euch nicht mehr sehen.
FLOWERS BIRDS CHILDREN	Die liebe Mutter Sonne Muss zur Ruhe gehn Schon sinken ihre Strahlen Sie kann uns nicht mehr sehn. Der böse Winter kommt nun an Der alte, kalte, harte Mann. Doch wir, wir wollen ihn necken, Wir wollen uns verstecken.
FLOWERS:	Wir Blümelein machen uns ganz klein, Schlüpfen in die Erde 'nein.

[6]

BIRDS:	Wir Vögelein, wir fliegen fort Weit an einen fernen Ort.
CHILDREN:	Wir Kinder bleiben auch nicht draus, Verstecken uns im warmen Haus.
WINTER:	Wartet nur, jetzt bin ich da, Kommet keines mir zu nah! Wen ich treff, blau und rot, Blas ich an und mach ihn tot.
FLOWERS BIRDS CHILDREN	Liebe Sonne scheine wieder! Schöner Frühling, komm doch bald! Ganz erfroren sind die Glieder Unsre Händchen die sind kalt.
SUN:	Zu Ende ist die finstre Nacht, Die Sonne, die ist aufgewacht. Lasst den Frühling in das Haus, Treibt den bösen Winter aus!
All sing together the well known folk-song	Nun treiben wir den Winter aus, Den alten, kalten Krächzer, Und jagen ihn zum Land hinaus Den Brummbar und den Ächzer. Und laden uns den Frühling ein Mit Blumen und mit Sonnenschein: Juchei! Juchei! Juchei! O komm du schöner Mai!

BRONJA HÜTTNER.

Concerning the Forces of Dentition and the Physiognomy of Thinking

(Reprinted from *Das Goetheanum* of September 26 and October 3, 1943, by kind permission.)

THE human organism is a script not easy to read. Its forms stand before us as mysterious as the ancient runes and it is an ever-present task for mankind to decipher them.

Just as everything we meet on this earth has its double significance, so has the human organism. Every material thing has two functions: firstly, to fulfil its purpose physically, and secondly, to serve as a basis for the spiritual.

Nowhere is the realisation of this fact so important as in education. It is, indeed, decisive here whether the teacher perceives this double function or not. Rudolf Steiner's tireless efforts were directed towards showing the teacher how the

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spiritual works in man and how the organs are involved in this. To be man means at first to build up the body and to blossom forth completely at one with it (this the child does, for his body, soul and spirit form a unity up to the seventh year) and then step by step to become free of it. This significant separation begins after the seventh year. The sign for the division of the soul forces from their dependence on the body is the change of teeth. We can study here an outstanding problem of child life: *How does power of soul divide itself off from bodily form?* Whenever we approach problems without prejudice, we can do no other than observe exactly. "Observation and thinking are the two foundation pillars of our spirit," says Rudolf Steiner in his *Philosophy of Spiritual Activity*.

In Anthroposophy the change of teeth is to be found described exhaustively and from many viewpoints. This prompts us to look at this phenomenon more exactly.

What happens in the change of teeth? Teeth are forced out by a completely different set. If we compare one set with another, the milk teeth with the permanent ones, then so many differences present themselves that we have to ask: *Do not the differences between the two sets point to similar differences in the forces which underlie their formation?*

Firstly, it is obvious that there is a difference in number. There is a mathematical relationship between the two: the 20 milk teeth as opposed to the 32 permanent ones. A mysterious relationship becomes manifest, if the X-ray picture of a set of milk teeth is studied. The second tooth, already formed, lies under every milk tooth in the jaw. Hidden in its cavity, it awaits the right moment for its appearance. Thus behind the five milk teeth of one half jaw the five permanent ones are present potentially. They are increased by three, however, for which no corresponding teeth exist in the first set. One has the strange impression that the second teeth hold themselves back as active and creative powers and that in the milk set fore-runners are given, which are not called to perform the main task. For in no way in the first set does any noteworthy or striking force come to expression. The working is so impersonal and anonymous. Hence the German expression "Mäusezähnen" (little mouse teeth). The fact that the milk set has no self-based existence, but is still completely bound up with the living process of the growing body shows itself clearly in that the roots of the milk teeth are reabsorbed, taken back into the organism again through the so-called osteoclasts. This shows how very much the milk tooth is penetrated by the life processes and has not become the hardest part of the body separated out completely.

Indeed, there is more to be understood in the formation of 2×10 teeth. This insistence on the number 10 is strange, since the second set with its 32 teeth stands in direct contrast.

The number 10 appears equally prominently in our body only in our limbs: we have 10 fingers and 10 toes. This strange relationship between teeth, fingers and toes finds its explanation, when one knows the tendency of our body to repeat the whole in every one of its parts. In the head there is the tendency to form a complete man in itself. In this head-man the jaw plays the role of the limbs, the upper jaw representing the hands, the lower the feet. The limb nature of the jaw

is very clearly seen in its function as also in its skeletal formation. Indeed, Rudolf Steiner has in many lectures on the metamorphosis of the human being shown comprehensively that the region of the jaw represents a metamorphosis of the limb in a far deeper way.¹ Wherever we have the earthly forces predominant, a tendency towards the number ten is created. The child's body up to the seventh year is chiefly concerned with the forming of the physical organism. When this is finished, a higher principle begins to work in. The 20 milk teeth must make way for other forces, which in their turn express themselves in the number 32.

But upon closer scrutiny one is immediately aware that the development of the 32 teeth has a quite clear division. For as a rule our permanent set reaches a certain completeness by the fourteenth year—that is within the second seven-yearly period—and contains 28 teeth. Only several years later, between the eighteenth and thirtieth year, do the late-comers put in an appearance, the wisdom teeth, and they are often sorry specimens. They give us to understand through this long gap that they do not belong very closely to their predecessors. The permanent set is therefore arranged as follows: $28 + 4$. This separation of the wisdom teeth immediately suggests a unique significance and indeed one may look upon them as the representatives of the individual will of man.

But where shall we find an indication which will point to an understanding of the number 28? If, in order to find an answer, one looks for a parallel organisation in the body, which also expresses itself by this number, then one comes to the spinal column. This also has a strange characteristic of having 28 distinct vertebrae with certain additions. How extraordinarily important is the formation of the spinal column, with this number of vertebrae and nerves, is clearly shown in the explanations of Rudolf Steiner on this point.² Here is one of the many passages:

"... One saw this progression of the moon through its phases in the cosmos. One saw also the moon moving through its orbit. One saw how it made its revolutions in its movement, its 28 to 30 revolutions, and then one understood how man has 28 to 30 vertebrae in his spinal column, and one understood how there was a connection between the lunar movements and forces, and what formed itself out in man (if only as an indication) as the spinal column. . . . And having the human spinal column, with its 28 to 30 nerves, which go out into the whole organism, one saw in these 28 to 30 nerves the reflection of forces, which the moon is continuously sending down on to the earth from the various stages of its orbit." (From *Rosicrucian Mysteries*.)³

If one wishes to understand the human body—this we are to understand from such a passage—then one must approach the truth that the whole cosmos takes part in the forming of man, the macrocosm mirrors itself in the microcosm. (To be convinced of this, one has to work one's way for a long time into the inter-connections.) *Just as our body is a mirror of the cosmos, so is our head a mirror of the*

¹ Cf. Dr. Wachsmuth, *Reincarnation as a Phenomenon of Metamorphosis*.

² Among others, *Macrocosm and Microcosm, Turning Points in Spiritual History*.

³ This passage is very difficult to translate. Dr. Steiner uses the word "Wirbel" in two contexts, and this has been translated first as "revolution" and secondly as "vertebra."

body. Every bodily organ has its corresponding mirroring in the head. The teeth take up the formative forces of the spinal column and give them forth again in their own way.

We can throw light on the relation of teeth formation and the cosmic powers from still another viewpoint. This also points to the comprehensive way in which man is to be conceived as a cosmic being.

In his *Occult Science* Rudolf Steiner describes the parting of the moon from the earth. With the separation of the moon, the earth was able to rid itself of its hardest constituents and only thus could remain a dwelling-place for mankind at all. After this had happened a new stage of evolution could unfold. The moon forces worked back beneficially now from without on to the freed earth. The emergence of the second teeth is like a reflection of that separation. To the degree in which man disembarrasses himself of his most formed and hardest substance does he become spiritually intelligent and ripe for a higher stage of development. And still to-day in the seventh year the notable moment arrives when, according to Rudolf Steiner, it is just the moon forces which begin to work especially upon man, only to give way to other forces in the fourteenth year. What was once an earthly happening has become an event in human development. It is thus self-evident that we must examine more closely what plays itself out in the change of teeth.

The time has come for the second teeth when the first seven years are over. They pass over from their latent to their revealed condition. They appear in a really remarkable rhythmic sequence.¹ First and second incisors appear, sometimes one, sometimes the other, then the first and generally the second premolar and only after this the eye-tooth, which stands between these two groups. This order of appearance points to a characteristic state of tension which exists between the forces forming the incisors and those forming the molars. The eye-tooth forms a point of balance between the two, and thus bears a significance accorded to no other tooth. It reveals itself as the keystone of the set. This becomes even clearer if one examines the forms of the teeth. Forward from the eye-tooth are the incisors, flat as seen from the front, linear as seen from the top; backward from the eye-tooth lie the faceted, four-sided molars. Between these two fundamental forms there stands the eye-tooth, which, coming as it does to a point, forms neither line nor surface. It can be described as a concentration of the forces of dentition: behind it the forces strive with full power towards the amassing of material, in front of it a remarkable bridling of these forces takes place, which leads to a two-dimensional form—the cutting edge of the incisor. The eye-tooth holds itself in balance. It holds itself back equally from the line (of the incisor) as from the surface (of the molar) and remains one-dimensional. The form of the eye-tooth in animals is interesting in this respect. Here the tooth falls away from a state of balance and gives itself over to the force of gravity. Losing itself with remarkable vehemence in matter, it forms the terribly exaggerated “canine” used for tearing flesh. The whole set loses its harmony of rhythm and form. Not only is the influx of formative forces shown in the exaggerated length of the canine tooth, but also

¹ This is also the case with anthropoid apes.

in the formation of the tooth surface. The significance of the surface of human teeth lies in its smoothness. Only the rear molars have a corrugated biting surface. In the anthropoid apes, significantly enough, the canines begin to have corrugated surfaces. It is interesting to see to what an extent the animal luxuriates in the teeth forms, to an extent from which the human organism carefully refrains. On the other hand, if it holds the formative forces back too far, then there arise unformed shapes, the denticles. They are the obvious expression of the failure of the formative forces.

Formative forces therefore become visible in the metamorphosis of the dental forms and their inner tension reveals itself in the order in which the teeth change.

But the whole set provides other phenomena for us. What do we find pleasant about a smiling mouth, when do we consider it well formed? When the teeth flash forth and show us a row without a gap, when tooth stands close to tooth, and yet each leaves the other due space. We see a differently-working force, however, when the rows of teeth form no even fence, but when each tooth stands alone, without contact with its neighbour: one gap after another. What should form a whole is here broken up, here the completed picture is lacking. A weakness of the formative forces is evident; they draw our attention to a weariness inherent in them.

We enter upon an important chapter, when we examine the set in regard to its relationship with the vertical. Two aberrations can arise: the teeth slope either outwards or inwards. We can estimate the significance of such a position of the teeth when we consider the import of those forces which work in a vertical direction in man. To them we owe our upright carriage, our vertical brow; they awaken thoughtful consciousness, they lead towards awakes and presence of mind. The ego-power in man is expressed in uprightness. We are able to measure how far the teeth comply with or deviate from the ordering of these forces.

The sets of teeth, upper and lower, are made up of certain components. Among the many elements which could be considered, let us only mention how teeth vary in their actual condition. There are teeth which are soft, hard, grooved, cracked or even unhomogeneous in their consistency. The substance has further to come to terms with light. A certain colour appears. There are chalky, transparent, yellow, bluish, brown and finally black teeth. Let us take, as an example, teeth which have been disturbed in their growth by the most serious of formative force illnesses—rickets. They have jagged edges, there are pits or transverse linear indentations in the enamel. Their surface is often yellowish, often dark brown. To quote one more example of abnormality in substance: there are teeth which do not crystallise their substance out in a uniform way, so that tiny little air-pockets are formed, which appear as chalky white patches.

What is possible to observe in teeth can be divided in general into three categories:

(1) *Form*.—This gives us information about the progress of metamorphosis in the set. The formative forces, which are working there, let us know whether they are strong, weak or chaotic.

(2) *Position*.—We learn here something about the harmony of the forces, which work in man from above down and from below up.

(3) *Substance*.—This tells us of the dental materialising process, whether this is strong or whether one can discern a flight from matter.

What meets us in dentition is quite obviously the expression of widely differentiated formative forces. Therefore we can draw conclusions from the teeth about the formative forces themselves.

What kind of formative forces are those which create the teeth?

They are those forces of the human etheric body, which during the first seven years of childhood are engaged in building up the physical body and finally cause the second teeth to erupt. After the second dentition they are freed from this task and are at the disposal of the child's inner life. Education has to do with them, they come into use in writing, drawing, memorisation, in short in the whole process of mental development of the elementary school-child. They reveal their character and quality in the formation of the second set of teeth.

Rudolf Steiner speaks quite exactly about this relationship and one of his most revealing statements runs as follows:

"... we have in the teeth an outer picture, a natural imagination of the thinking. The thinking shoots into the teeth and says to us with regard to them: look, here you have my outer physiognomy."

In the preceding attempt to present some of the chief characteristics of this outer expression of the thinking, one has to say to oneself ever again that in reality the various physical traits intermingle and do not easily appear separately. So also many things will come under consideration, which have not been especially mentioned. For example, when with regard to the position of the teeth it was shown how the harmonisation of the upward and downward stream took place, it must be remembered that this is not the only manifestation of this force. The progress in *time* of the change of teeth is also important for the harmonising of above and below, for the grasping of the body by the ego power. The change can take place too quickly—nowadays in ever more numerous cases it is advanced to the sixth or fifth year—or it can take place too slowly and only occurs between the ninth and twelfth year (or does not take place at all).

The division is somewhat theoretical and an actual example will make things clear.

Whoever sets himself the task of finding out the nature of the mental powers from a study of the physical form of the teeth, has to grapple with the fact of the metamorphosis of the second dentition.

One soon realises that the force which reveals itself in the second set must have an enormous capability for metamorphosis. This power is the living thinking. It is the peculiar nature of thinking immediately to develop a thought further, to intensify it, to form it out through manifold stages, until a mental edifice arises, possessing an inner compactness, an individual style. Each thought therefore can

be conceived as the seed of a whole train of thoughts latent within it, leading to ever deeper, ever more significant paths, when the human ego gives itself up actively to such a process.

The understanding of the nature of thinking has fundamental importance for mental education. If the teacher wishes to introduce children to thinking, then from first to last he must put into practice the teaching of metamorphosis. In order to enter this realm, the study of Goethe's *Metamorphosis of the Plants* or Grohmann's *The Plant* or Strakosch's *Plant Forms as the Product of the Interplay of Formative Forces* all provide a good training of thinking. The opportunity of strengthening the forces of change in the developing thinking offers itself everywhere in teaching. On the other hand thinking is immediately stultified if the powers of metamorphosis are ignored. This stultification arises from the learning of isolated facts in a fixed form, from the fragments of knowledge presented in a time-worn manner, through the crystallised definition. Then the impetus of thought is lost, its intensity and possibility of development fade away.

Just as each tooth, however, has formed out its own individual shape, quite clearly and sharply moulded, so the thought should not degenerate into a fleeting, shapeless mass. Such thoughts cannot undergo metamorphosis. For change can only take place if there is something there to change, when the thought has been brought into clear form. Then, and only then, can it be left and then reformed into something new and better.

In the process of thinking, then, we have two necessarily related characteristics: form and metamorphosis.

Now when we want to go further into the study of the physiognomy of thinking as it appears in the teeth, then we see that an almost limitless variety of form is possible. At first the various teeth seem to be similarly shaped, and we distinguish them as we would a European or a Chinese, but then the special and individual characteristics of each set of teeth become ever more evident and one sees through the outer appearance to the etheric forces standing behind. At this point general study passes over into the study of actual examples.

The many publications of the University Dental Clinics (Switzerland) dealing with special cases offer wonderful and inexhaustible material for study. No one has phantasy enough to imagine all the possible variations in teeth. In many investigations into medical histories the significant sentence appears: "The patient is otherwise quite healthy and no other abnormality can be found."

Then something appears in print which should not do so much longer in future: that one does not know where to look for the origin of such dental irregularities. One must direct one's attention towards the mental constitution of the patient and realise that since it is the formative forces (which must be recognised sooner or later) which undergo disorder in the process of metamorphosis and produce weakness in the formation of the teeth, these formative forces must be sought where they are now operative, namely in the thinking and memory.

To give point to these remarks, here are some examples, which are brought forward as indications only, but which show the method of investigation. For in a field of observation which has still to be cultivated, it is more necessary to show

the ultimate goal than any finished results, as the words of Christian Morgenstern express:

Wer vom Ziel nicht weiss,
Kann den Weg nicht haben.

In the case of one boy, it is found he is incapable of following the simplest logical sequence. His compositions are a collection of incoherent items. Calculations are just not understood, success is only gained in rule of thumb methods. Without exception in geometrical drawings all right angles are oblique.

Let us now study the teeth of this child.

The teeth are yellowish brown, the incisors slanting and decidedly serrated, the arrangement of teeth is unhappy; in both top jaw on the palate and in the bottom jaw on the inside, teeth grow on their own, outside the normal row. The carious condition is frightful. The whole impression is chaotic and weakly and the configuration fundamentally disturbed.

Take another boy. He is abnormal in that his thoughts often stick, are cramped and find no outlet. As if blinkered, he loses the larger view and stares at one point only, stiff and immovable. He has little flexibility of thought. He is in part a very good calculator, but does not carry this ability into other fields. He refuses new tasks at first, only to begin to do them slowly later.

His second set show deeply rickety teeth, small, spotted with brown and heavily indented. They are so fragile that no filling holds for long and often seems hardly worth doing.

In the next case the child finds it difficult to give his thoughts strength and direction. He produces pleasing thoughts, but when they are followed up, they fall away for lack of surety and foundation. They are spoken out rather into the blue. His compositions are carried out with fluency and atmosphere. In arithmetic one never knows whether he has understood or not. There is no inclination with the boy to be clear on this point. His capability for illusion is great.

His teeth are beautifully formed; large strong incisors dominate the middle, but one thing mars their beauty: they are not properly or uniformly filled with matter, for they show chalky patches.

To conclude with one more illustration.

A child cannot bring himself to the formation of thoughts. It is as if every shape and form glide away from him. His mental productions always arouse the feeling that one has to do with a kind of porridge, which never assumes form.

His incisors, especially on the right hand side, have the so-called corkscrew form (Hutchinson's teeth). Their characteristic is the splitting up and dissolution of their form. The usually right-angled incisor assumes the shape of a corkscrew through the running together of the vertical edges. The cutting edge itself bends inwards and upwards, like a half moon. In further stages (which is not the case in our example) two saw-like teeth are formed from the one, which is thus sharply divided into two parts. The other teeth are small and very carious. In conjunction with the whole surroundings of the child, one has the impression of heredity forces weighing heavily.

It is obvious that the interpretation of these phenomena can never be general and abstract. One may only venture one rule: that one proceeds individually, looks at each case in and for itself and relates the various facts only to the case itself. It is important also that one tries to acquire first of all an impression of the thought forms and forces and then in an undogmatic and open way to consider the physiognomy of the thinking in the formation of the teeth. In this way one learns from reality and wonders at the inexhaustible variety of the formative forces.

The attempt has been made in this article to direct the attention in a certain sense to a polarity: the bodily teeth and the spiritual thinking which corresponds to them. Fundamentally both are the differentiated expression of a common force, which Rudolf Steiner has called the etheric body. In the whole research of the present day a completely new impulse will enter, when the abundance of material acquired is studied from the standpoint of the etheric world. The paths of investigation, already controversial, towards an understanding of vitamins in chemistry, for example, or in biology towards a new picture of man (Portmann) are clear signs that our century gropes its way forward to the etheric forces.

One thing, however, must be said: such a direction is only healthy, if it springs from a conscious attitude of spirit.

A conscious spiritual attitude towards the etheric means the *seeking of knowledge of the higher worlds*.

RUDOLF GROSSE.

Learning to Write

ONE of the first things the child begins to learn on coming to school is to write. It is a subject to which, as grown ups, we give very little thought. We accept the fact that people can write and read almost as we expect them to speak. Indeed, for some of us, the art of writing was acquired at such an early age that we remember nothing about learning it. The gift has been with us from the beginning in the same way as speaking and we no longer make especial note of these curious symbols which form themselves into words. We jump immediately to the content.

These letters as we know them are an abstraction. For the most part writing is an intellectual activity. The only parts of the body actively engaged are the finger tips which hold the pen and form the letters. I once read that in a very advanced school in America even this slight artistic activity was being abolished in favour of the typewriter!

Rudolf Steiner continually emphasises the fact that for the first seven years of its life the child is pre-eminently occupied with the formation of its physical body. This reaches a certain stage of completion when the second teeth develop. Up to this time the child should not be engaged in other tasks. Real lessons begin then at about the age of seven, and, as educators, we have to consider in what way we

can best bring the letters to the child. Definite harm will result if this is not done in a way which takes all factors into consideration.

What are these signs which we call letters and make into words in order to communicate with one another? I read somewhere that the Red Indians said the Palefaces communicated with each other by means of little devils. They felt that there was something uncanny in these signs which we use and no doubt they were right. These signs have wandered a long way from reality. There is a reality, however, at the basis of our letters, namely a picture. The modern letters of our alphabet are the end of a long process which began as pictures.

We must bear in mind that the child has no use for abstractions and intellectualism. He lives in movement with his body and in pictures with his mind. To present the letters pictorially therefore is correct from the child's point of view and conforms with the historical basis of writing. But there is one further important thing to be borne in mind. The letter of the alphabet expresses a sound made by the mouth. The sound itself expresses something, as indicated in my previous article on languages, and this something which becomes speech manifests a human experience.

A certain sound expresses a definite characteristic. B expresses "enclosure," L an "unfolding." In Eurhythm¹, the new art of movement, these qualities of sound are expressed in gesture. It is a great help therefore to be able to make use of Eurhythm¹ to bring to the children an understanding for the sounds which the letters represent.

In teaching children to write I have tried to bring these various matters into relationship with one another.

We usually think in terms of one alphabet but actually we have to learn four. There are capital and small letters for writing and a little later the same for reading. As grown-ups we do not often realise the difference between the written and the printed letter, e.g. F, f, G, g. Obviously we cannot teach all the letters by means of a picture. For one thing it is extremely difficult to find pictures in all instances and for another we also have to teach other things. It is the aim to have the children familiar with all the letters by the end of the first year. Sufficient pictorial teaching, however, can be given to indicate that a reality forms the basis of these signs. Variations can often be devised. It may be objected that we do not and cannot know the original picture for each letter. For our purpose this does not matter—we wish to convey the underlying truth, not any particular detail, and so we make our own pictures. Each teacher has to develop a creative faculty and has to decide for himself where he will begin. For myself, I chose the cursive capitals, with their loops and curves; these seemed to me more artistic than their prosaic printed brothers.

In the *Practical Course for Teachers*, Dr. Steiner indicates that one of the first things which should be brought to the consciousness of children in a new class is the fact that they have hands and feet. With the hands they can make and do things; with the feet they can stand or walk. They can proceed in different directions, walk in a straight line or a curve, and so on. From this it

¹ Cf. Editorial.

is only a step to walking or running simple forms like a circle or loop. Since the child lives in movement, we used to spend half an hour every morning running forms, sometimes altogether, sometimes singly: lines, circles, loops, loops in series, an inverted one, waves, line and semicircle and other variations. Sometimes we made it into a game of Follow my Leader, when all these forms could be run in combination. At first it was necessary to chalk the forms on the floor. After a little time this could be dispensed with. In this way some feeling for form was developed through the whole body. In time these forms became letters, although the children did not immediately recognise them as such—**P G C**—loops, lines and curves in a definite sequence.

For the next half-hour or hour we had a painting lesson. We painted many pictures during this period and while teaching something about the technique of painting and the use of colour, I was leading up towards writing. When we paint, we use colours. We paint blue mountains and yellow sunshine; we paint green fields and a red sunset. Sometimes we let the colours have free play and they form themselves into red dragons, giants or anything which appeals to the fantasy of the particular child. If we look at a landscape the hills and the sky are the real things. Where they meet a line is formed, but the line is not real. When we paint a landscape we paint the hills and the sky and where the two colours meet a line is formed. This is the way we try to introduce the child to the line. Thus we paint pictures of mountains, valleys, waves, boats, and so on. The children have a wonderful time with the flowing colours and are immensely absorbed in their activity.



Having achieved something approaching the desired form, I tell a story about a traveller, in the days before men had learnt to write, who wished to communicate with his friends. He wanted to tell them of his journeyings over mountains, through valleys, over the seas in a boat, etc. At first he drew pictures and sent them, but he found that this took a long time. Instead therefore of drawing the mountains and the sky, he made a line where the two met. He did the same with the other things about which he wanted to explain.



With use, and as other people copied the idea, the shapes were changed a little and we finally got *M* with which Mountain is written, *W* for Waves, *V* for Valley and *B* for Boat.

Thus we were able to develop most of the letters from a picture. The next point to be dealt with was why the symbol *M* is pronounced as it is. We have got *B* for Boat, but what is the experience contained in the sound *B*? In the sound *B* there is always some idea of enclosure. In Eurhythmly where the sound is translated into movement this idea becomes visible gesture. The *B* movement is a reaching forward with the arms as if to enclose something which is then held



firmly (Fig. 1). If we look at a man sideways doing this, it is not difficult to evolve the shape of the *B*. In this case, therefore, we have been able to develop the written character *B* from the picture of a Boat and also from a bodily gesture which expresses the meaning of the sound. We have connected the written symbol *B* with the sound *B* and with human experience.

This process is not possible with all the letters, but a sufficient number can be treated to give the child a sense of these relationships. It does not mean, of course, that he grasps all these things intellectually.

Certain philistine natures will object and say: "Why go to all this trouble? Write *B* on the board. Tell the children its name and let them copy it. It will save time and trouble." Such a statement only serves to illustrate a fundamental difference between our methods and those applied elsewhere. A real Rudolf Steiner teacher cannot put a *B* on the board and say "Now children this is a *B*." He must justify imaginatively what he is doing, otherwise the thing remains an abstraction.

To help develop a feeling for the sounds and to practise the gestures we had the following verse in our Eurhythmly lesson:

Let us bravely now build with fine bricks
Both a high and a handsome new house.
That it first may be firm and well founded,
We will dig a good depth for foundations.
On the clay we will cast moulds of concrete,
Then we'll make and we'll mix a good mortar
And bricks layer upon layer we will lay
Till the top is as tall as the trees.
As it grows we leave gaps for some glass
That the sunlight in splendour may stream in.
It has views o'er the vale and the valley—
With its polish and paint it looks proud
And we know we have nothing neglected.

So far I have only discussed consonants. If I omitted the vowels it would be understandable to every teacher in every Rudolf Steiner School in England. The teaching of vowels is a nightmare to all those who attempt it along these lines. I can only indicate my own modest and imperfect attempts.

While consonants were originally the imitation of something in the outer world, vowels are an expression of man's inner nature. They express something of his reaction to the outer world. We therefore have to approach them a little differently.

With a knowledge of Eurhythmly the written character, as well as a feeling for the nature of the sound, can be developed from the gesture.

As far as English is concerned there is a difficulty which arises from the varied pronunciation of the vowels. For a Eurhythmly performance I once had to recite the poem *Meg Merilees*:

Old Meg, she was a gipsy
And lived upon the moors.

To my mind moors should be pronounced in the same way as the word with which it is meant to rhyme: "doors." But no! the young lady interpreting the poem insisted that it was an "oo" sound as in "fool"! There is also the problem of the same vowel signs being pronounced differently quite apart from the difference of dialects. The classical example of this is the ou combination—rough, though, thought, thou, through, cough.

One has to adopt some sort of standard and perhaps the easiest approach is to take the pure vowel sounds in sequence and explain alterations and variations later as a process of development. This sequence is according to the way the sounds are formed from the back of the mouth to the lips Ah (farther), E (they), I (ee), O (foe), U (oo). In English we have the E (ay) sound in its purity only in the short version as "fed," although in some parts of Leicestershire, for example, it is to be found. Possibly this is a re-distortion, but the phrase "He said to me" would sound something like this, "'ay sed to may." Similarly we have only the pure I (ee) short as in "bill," while the U (oo) is also often impure.

To help us to acquire a feeling for the vowels we practised a little verse in Eurhythmly which made use of characteristic sounds. First of all I told the children that we were standing on the top of a high mountain. Around us were other peaks, some covered with snow. In the valleys between were wisps of mist. It was very early morning, a little cold, the sun had not yet risen. As we looked towards the east, we saw the sky beginning to redden; the stars were growing faint and slowly from up behind the mountains the sun was rising. We greeted the sun with a Eurhythmly gesture for Ah, an opening out (Fig. 2) and said:

"Ah, father sun, a marvel thou art, to banish darkness and gladden the heart."



Fig. 2.

From this gesture it was not difficult to develop *Λ* and *Α*. Similarly the symbols E (ay), I (ee), O, U (oo), were developed from the gesture and each time we had a short verse containing these sounds. The meaning of each sentence is characteristic of the significance of the vowel sound which is prominent. Thus the Ah is an opening out in astonishment. In E (ay) something of the feeling is expressed, "The world has done something to me, I must protect myself." The gesture is a crossing of the arms. I (ee) contains something of self-assertion, O a loving enfolding, U is the opposite of Ah, being squeezed or pressed—a feeling of fear.

These written characters can be developed out of the Eurhythmly gesture.

The story continued that as we were watching, the sun rose and blinded our eyes (E mood), we felt ourselves warmed and invigorated (I mood). We wanted

to gather the sun's warmth to ourselves (O), but also remembered that night, cold and dark, follows day (U). The whole verse was as follows:

Ah, father sun, a marvel thou art, to banish darkness and gladden the heart.
In the splendour of thy presence our eyes we wend away yet without dread we stay.
In the east the hills are lit. With light the distant fields are filled. Our will to live increases.
O, in our souls we would enfold thy gifts of gold.
Thou movest through the blue. The earth soon cools. The moon then rules.

Thus we have followed a long and complicated process. How different from saying: "Children this is a B, copy it." What have we achieved? In the first place we have kept the child's attention the whole of the way. Children enjoy this type of teaching because it takes into account their real needs. The teacher has had to do something creative himself and who shall deny that this is a potent force which reacts beneficially upon the class? His interest and enthusiasm are just as important as his subject matter. The children have connected themselves intimately with these written symbols of our alphabet. The letters are not just given to be learnt parrot-fashion, but are understood and loved. The children have also gained some insight into the relationship between letters and speech, that faculty by which man raises himself above the rest of the earthly creatures.

R. WILKINSON.

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