Thinking experienced through

body movement :

How physical activity can transform personal development.

Translation: Jeanette Loric and Dave Clark

Original title: “Réussir grâce à la réflexion vécue par le jeu corporel : La méthode Cécile Patin” (“How to succeed with thinking experienced through body movement: The Cécile Patin method”)

For all children who are not aware of their own worth,

For all parents who worry about their children,

For everyone who lives in uncertainty because they don't really know their own strengths,

For all the children who taught me simplicity, who enabled me to rediscover spontaneity and to understand the meaning of authenticity, and whom I thank most of all,

Here are the results of my experience, of my own thinking experienced.

Cécile PATIN

PRÉFACE

Agnès Irrmann Patin, the daughter of Cécile Patin to whom this book is dedicated, asked me to write the preface, and I cannot tell you how proud I am to do so. I sat down straight away at my computer and began writing.

I could write a whole load of thoughts about the link between mind and body, supporting my remarks with quotations from psychotherapists, sociologists, and even philosophers, creating, of course, a close comparison with Cécile Patin's own method; something she herself called "thinking experienced through body movement" [footnote: In French, "réflexion vécue par le jeu corporel"].

And then some vivid memories came back to me: unusual experiences, so unexpected as to be unforgettable; uncommon, but also subtle and formative !

At that time, I was doing a course with Cécile as part of my training to become a special needs teacher.

The aim of the session seemed to me to be simple, very simple in fact: I was to get a six-year-old child to do a back roll. I was young, sympathetic toward child learners, and conditioned by my own education and what I had learned from my training, so I approached the child and crouched down next to him on the mat.

"Alexander, get into position and do a nice back roll for *me*, please. OK?"

"No!" shouted Cécile in a tone that allowed no argument.

I was both surprised and a bit hurt that she addressed me so bluntly (Cécile never did mince her words) and without taking any account of my role as an adult in front of this child. I might have made a mistake, but this didn't justify undermining me in front of my 'pupil'. What was more, I didn't think my instructions had been wrong! Of course, all these thoughts and emotions passed through my mind in a flash.

"What are you doing? This kid doesn't know you! Why would he want to do a back roll for *you*? He's here for his own development, not to please you!"

It was — how can I put it? — an 'unvarnished truth', but so right!

I got back on the mat beside the child and modified my instructions:

and modified my instructions:

"Alexander, get into position and you are going to do a superb back roll. You're really good at it so you'll do it well. OK?"

"No!" shouted Cécile in that same tone which could not be contested.

This time I jumped up ready to speak my mind, but I didn't. Oh yes, inside I was furious, and I would willingly have stamped my foot, but I did not want to act like Cécile, whose attitude I disapproved of. Whatever would Alexander think of such a scene?

"Why ever are you telling him all that? Are you trying to make him fail? Didn't you learn to use the imperative at school? Now, try again."

The imperative! Giving orders! To me that seemed violent, almost like a punishment, like when you say, "Go to your room!". I crouched down by Alexander once again, and then with my gentlest voice I began:

“Alexander…”

“No!”

Yet again — this really was too much! I glared at Cécile and clenched my teeth.

“You must realise that he knows his name, and he knows that you are speaking to him. What’s more, his ears are working perfectly. So, stay standing up, move back to leave him room to breathe, be precise, give a clear instruction, and do it in a clear voice. Right now, you are giving him too much useless information.”

I became aware that what Cécile had just told me so concisely was absolutely correct.

So it was that in a few minutes I stood firmly planted a metre away from Alexander and announced clearly:

“Do a back roll.”

Since that day I have often repeated the words of Nicolas Boileau-Despréaux: “Whatever is well thought out is clearly expressed and the words to say it come easily.” And as for the imperative, well, I have become reconciled to it.

For his part, Alexander was certainly cheered to see that even adults can make mistakes, recognise them, admit to them, and continue to learn. A great lesson for both of us: not just that the ‘older and wiser’ should be respected, but also, as far as Cécile was concerned at least, you’d better watch out if you cross swords with them!

I have to say that over the years, with all her experience, Cécile had acquired a stock of physical responses which were both fun and effective.

I think I shall always remember the horrified look on the face of one young boy, known for his combative nature, when Cécile suggested that she and he should do some Indian wrestling together! All morning, Victor, who was obviously in a bellicose mood, had been picking fights with each of the other children in turn. I tried various tactics, verbal and physical, to try and stop this behaviour:

-I continued instructing the other children while holding Victor close to me in an attempt to channel his energy.

-I sat all the children down to discuss Victor's attitude in a calm but decisive way.

-I asked him to leave the room so that we could continue working, while leaving him the possibility of re-joining the group when he felt ready to do so.

Little by little Victor's attitude changed. Then suddenly, towards the end of the morning, Cécile, who had been observing all the time, got up and spoke to Victor, who had now calmed down. I think Cécile judged it the right moment for him to do some listening and some thinking.

"Victor, come onto the mat. I want to have a fight with you."

Just imagine the stupefaction of this ten-year-old boy, bursting with energy, challenged to a fight by a nearly 70-year-old grandmother… His first reaction was to freeze, no doubt thinking this was a silly and slightly tasteless joke.

“You seem to enjoy a scrap, and I enjoy Indian wrestling. Come on, don’t be scared! I’m old, so you won’t be taking much of a risk! And don’t worry, I won’t hurt you at all…”

Seeing Cécile lying on her back, Victor ended up joining her on the mat with a smile on his lips. No doubt he felt quite strong enough to combat an old person, or perhaps it was to hide his nervousness. In any case, he positioned himself on the mat following Cécile’s instructions.

We watched them lying down, side by side, head to foot, with one leg raised vertically in a version of ‘arm wrestling’ but using their legs. It was less of a combat and more of an awareness of body weight on the ground, the working of quadriceps and adductor muscles, the locking of the knee joint (or to be more exact of the ‘second hinge’, an expression you will find further on in this book), and so much more information conveyed by their body movement.

I have never really known whether this exercise actually figures in Indian wrestling, but it was a real ‘thought provoker’ for the boy… Victor beaten by Cécile, not because of weakness but because of a lack of skill and lack of knowledge of his own body.

From then on, it was much easier to explain rationally to the children, and particularly to Victor, that fighting for its own sake leads nowhere and can even be dangerous, whereas many sporting disciplines integrate the notion of combat while having rules, and a referee to enforce them, and that these combats always take place in a sporting spirit.

Of course, I cannot describe in detail all the anecdotes from my time of training with Cécile, but I will tell you of one last incident, surely one of the most touching.

During the courses which Agnès Irrmann Patin and I ran, we constantly made notes in order to evaluate each of the children's progress. As usual I had sat down at a table to copy up our notes and write one of these reports. This was part of our work, and for me an opportunity for deeper thinking and an objective view of this extraordinary tool which Cécile Patin's method was (and still is). It was very interesting work which demanded concentration and an analytical mind… 'productive energy', one might say. However, while my mind was active and dynamic, my body became sluggish and idle without my realising it. I more-or-less sagged on to the table, and Cécile did not fail to notice it. She came quietly up behind me. She ran her finger up the whole of my spine, which made me straighten up immediately.

"Be beautiful", she whispered in my ear.

Such gentleness of words and gestures was also something Cécile was capable of.

Cécile: an extraordinary woman. Her words could lack tact, surely because they were devoid of artifice, but a woman imbued with great philanthropy.

Cécile made her resources available for everyone without distinction of age, sex, nationality, or social rank. She always sought to share her knowledge and her skill in a simple, humble way.

Martine Deneuville

Vice-President, Association of the Cécile Patin method

INTRODUCTION

"Thinking experienced through body movement" is the fruit of 30 years' thought and experience acquired by Cécile. From 1962 she was confronted in her work as a physiotherapist by the problems of children with learning difficulties. Using her qualifications in educational and corrective gymnastics, she developed her "Thinking experienced through body movement" method, firstly for her own personal use, then in the "Centre de Guidance Infantile" created in 1967, and finally in the "National Centre for Training in Thinking experienced through body movement" which was created in 1975.

Cécile used the term "body movement" to make a clear distinction from mere physical exercise. In French, "jeu" can mean not only "movement" but also "a game" or "play". So, the bodily movement must be understood as "functioning well". It is evident that physical exercises enable learning while having fun. As the Greek philosopher Anacharsis said, "Play so that you may be serious."

This method aims to induce thoughtful mechanisms in order to be able to think globally and analytically "the right way up and upside down", to reflect while "stretching and contracting."

We have mental functions which are more or less efficient but which we are not necessarily aware of. The child who fails to perform an action (physical or mental) experiences this as a failure without understanding why. He does not know what the weakness is in his interior organisation. The "Thinking experienced by body movement" method induces him to use other means of functioning, to open his mental horizons, and propose different strategies which will ensure his progress towards success.

ACKNOWLEDGEMENTS

Cécile wrote her technical manual in 1968 in collaboration with various medical professionals, psychologists, psychomotor therapists, psychoanalysts, physiotherapists, speech therapists and special needs teachers. They contributed corrections and additional material. Subsequently Cécile wrote several versions in response to the many different requests she received, and to enlarge on the first simple set of instruction cards she had suggested. Colette Laurent, who attended the first training course in 1969, had kept the eight original double-sided cards (the educational method) of the "Thinking experienced through body movement" which were deposited in the Val d'Oise Departmental Archives on 7th June 1974.

My thanks go to all those who for many years have encouraged us and shown their interest in disseminating this work, firstly contacting Cécile and then myself to help us make it widely known.

Thanks to Bénédicte Ariès, president of the MCP Association, who spent much time with Cécile asking her for concrete examples. Bénédicte also helped me to complete the notes I made for the technical manual.

Thanks to my cousin Sylvie Attard who completed the second part of this work. She tells us my mother's story and that of the creation of her method and its use nowadays.

Agnès IRRMANN – PATIN

PUTTING THE METHOD INTO USE

It is important to establish some basic principles before applying Cécile Patin's method.

In order to help a child progress, a goal must be fixed. This is done by assessing their capabilities. These tests are carried out in the presence of their parents. It is an evaluation of their motor skills and the basic knowledge acquired during their schooling. By asking the children to carry out simple exercises, which require thinking before doing, these fields of development will be automatically investigated: knowledge of their body, sense of space and time, rhythmic and listening skills, left and right, coordination, control of movements and emotions. This assessment also brings out how the child reacts to instructions: Have they heard the instruction? Have they understood the instruction?

Whilst the child is carrying out these instructions, we can notice whether they are being followed correctly. According to the type of mistakes made, we can see if they are caused by something they've not understood correctly, or just by doing it too fast. We can also notice whether the child realises that they have made a mistake, or not, and whether they try to correct it (lucidity), how "with it" they are, how quickly they get tired, and how inattentive or easily distracted they are.

This assessment also shows the child's strengths – it shows up more of what they can do then what they can't do. It proves to the child that all is possible, that they are not the incapable dummy that everyone assumed, but that they must start thinking in order to progress. Thinking experienced through body movement is there to help them. The parents feel reassured by knowing what to do and by the simple language used to explain things: the proposal to help the child makes sense, and they don't feel guilty about the situation. The type of goal suggested could be: to help the child find their bearings, to gain confidence, to help them master their movements, or their pen, to learn to concentrate or to be more alert.

Whatever the goal, the sessions begin with a review of the body structure and a test of their ability to understand so that the child is able to control the vehicle of their body. It is understood that they are going to be taking life's driving test and we are there to make sure they are

well prepared. Indeed, if the driving is not going very well, we will explain that we haven't used the right method and that we are going to look for another way to help them steer their vehicle.

The technical manual in the next part of the book pretty much follows the original classification that Cécile established. It begins with 'Developing self-awareness' so that the learner driver knows who they are.

It is up to you to use the manual according to your needs making sure that the basic principles are applied first: for example, when dealing with left and right, the notion of the centre must be mastered first, then the sides, then left and right.

Only simple actions are needed but they must be perfectly controlled. An exercise can be very easy for some, but others will find it difficult. That's why every exercise must be done systematically and there should be no skipping.

Pick and choose, try things out, be daring! Maybe you will end up doing something that is not exactly Cécile Patin's Method, but you will be helping children to progress and that is what matters. If you do not succeed in using the method, no harm will be done: you can always try again or try differently.

Under the heading '*Learning points*' I have suggested useful steps to help the child overcome the difficulties they are facing. To succeed they may need to do things over and over again. So that the child does not get bored or fed up of doing the same thing, I have suggested some '*Learning alternatives*' which use different situations and add an element of surprise, something new and pleasing. These activities add some fun to the learning: they are more active and can even be competitive if there are several children working on the same problem. These alternatives also allow the children to enjoy all the things that they can do and not remain stuck with one thing that they are having problems with.

Some of the exercises to be done on paper have been illustrated in the text to help understand what the expected result should look like. But the children will never see these in their finished form. Each child

makes, or fills in, their own sheet. Very often the children use an erasable writing board before copying onto their paper, thus avoiding making mistakes and having to do it again, which is often taken badly.

The method Thinking experienced through body movement implies that the children learn by using their bodies and by actions. Then they must use their own intelligence to transfer the actions onto paper. It is essential that they are allowed to find answers themselves: the adult must never give an answer, they must do all they can to put the child on the right track by giving clues, even clowning around if necessary… It is the way a child is encouraged to find answers for themselves which is productive.

It is the adult's attitude which is vital to the success of the method: they must ensure an open atmosphere and a friendly relationship. They should be capable of doing whatever is necessary to keep the child happy and take care of their physical and emotional well-being. However, the adult is also the reference, knowing how to be scrupulous and demanding.

The adult shows the child what is expected of them: they must admit their mistakes and overcome the problems they encounter. The teacher is always careful to portray a positive attitude when sitting or standing, and the way they speak can be friendly but never too casual.

Some basic principles

The given exercises are not necessarily 'fun'. Learning sometimes requires assiduous training: that's why it is important to be a caring teacher, but that doesn't mean accepting the unacceptable.

1. Acknowledging receipt

The goal: Listen and repeat the instruction.

Cécile explains how she used 'acknowledging receipt' when confronted with children who couldn't cope with oral instructions:

> *… these children hear the words but don't listen properly. They do things out of habit, without really thinking. They know that they are expected to do something so out of reflex they do anything that comes to mind, and it's wrong.*

*They don't take the time to listen or understand what is being asked of them. That's why the tactic of using '*Acknowledging receipt*' is useful: "repeat what you heard".*

The fact of repeating the instruction means that the child has the time to understand it, and by saying it out loud it is as though they are giving the instruction to themselves. They say it, their mind accepts it, and their body conforms almost by magic. The result is positive, and they sense genuine pleasure.

In other words: by saying the instruction out loud, the way the child hears it and listens to it has changed. It is as though they are following their own commands and not ones that someone else is imposing on them.

2. Agreement – Report

The goal: Accepting a mission, carrying it out, reporting on what they did.

- 'Acknowledging receipt' allows the child to interpret the instruction as though they are the one giving it; then we ask them to put their mission into words. For example: I am going to walk on hands and knees, go up then down the climbing frame, and do a forward roll.
- We let them carry out their course without intervening, unless we see them hesitate in which case, we ask them to repeat the words used to describe their mission.
- When they have finished, we ask them to make their report. We do not give any signs of anything being right or wrong. They must relate in detail, including the fact that they hesitated, got the order wrong or made other blunders. For example: I walked on hands and knees, then I did a forward roll before I went up the climbing frame. At this point we ask the child to begin again in order to carry out their mission. Each time they report a non-conformity with the given mission, our reaction is affable and friendly (they haven't done anything improper, they haven't cheated, there is no harm) so they are encouraged in their attempts: they are learning to master their actions.

Agreement : the child verbalises the action they are about to carry out by saying "I am going to…"

Carrying out the action : during this discovery phase, mistakes are considered part of the learning process (and therefore normal). Being slow to carry out the action is not only acceptable but also constructive. When a child makes a mistake, they don't go back to start, they correct the mistake and carry on from where they were. After completing the task, they can begin again. If a child is making a lot of mistakes, it is important to congratulate them when they get something right. It is essential that the child realises they have overcome the problem.

Training: the adult should suggest tasks which are adapted to the child's abilities and develop progressively. At the end of the discovery phase, the child should be able to carry out the actions smoothly and precisely 5 times without making a mistake.

Report: The child verifies the agreement by saying "I did…"

3. Functional symmetry

The goal : to do the actions successfully the same number of times with both sides (left and right).

If a child can hop on one leg successfully but not on the other, we make them agree to succeed (agreement). When doing symmetry exercises remember to suggest they should start with the foot which is causing a problem before moving on to the other.

4. Instructing and checking

The adult gives the instructions impersonally: avoid using any kind of emotional or personal appeal. Don't say "Give me a …" or "Do me a …", simply say "Give a …" or "Do a…". If possible, keep to the imperative form.

Don't judge: just confirm what was done. An action is either completed satisfactorily or not. The agreement has either been fulfilled or not. Avoid saying that something was done "well" or "badly". Simply say "yes" or "no", or "correct" or "not quite" or "try again".

It is crucial that each child gets the opportunity to command. This instruction phase reveals the child's mastering of the action. They notice the mistakes made by others. When taking part in a group session, the

“instructor” runs through the actions they have mastered and the people who are doing the exercise check the accuracy of the instructions.

The child who never gives orders gets used to following them. The child who doesn’t learn to obey is usually bossy. This mirroring effect, instructing and checking, teaches the impulsive child to calm down and the shy child to be more affirmative.

When the ‘instructor’ has succeeded in conducting the exercise smoothly, all the way through, they know that they have mastered that issue and therefore are reassured that they can master others too. They can not only succeed but also do so elegantly taking into account the beauty of the action. All the emotions that they feel are exactly the same as the pleasure they get from their success.

Making mistakes is part of the learning: the children should be made to understand this and not be afraid or feel guilty. The learning phase is not humiliating; it is not degrading. Given time, and by constantly repeating short sequences, so that they do not tire or get impatient, the child is sure to succeed.

The adult in charge of the group takes part too and does what is told by the ‘instructor’. This is often the cause of laughter when the instructions given, and scrupulously followed, lead to strange situations. For example, if the ‘instructor’ forgets to say ‘stop!’ in the donkey-driving game, the adult who is being the clever donkey bumps into the wall…

Getting the chance to be the ‘instructor’ is like waving a magic wand. Agnès says: “When I watch the children and their parents in a group of baby-gym, I am always amazed to see these little creatures, who haven’t yet learnt to speak, get real pleasure from shaking the tambourine which makes the whole group (parents and children) move. Then by stopping the jingling which makes the whole group stand still. The children absolutely love it!”

Right from the very beginning of a course, each participant gets the opportunity of using the tambourine and being in command. They command the entire group in collective sessions or just the other person when working one to one. Progressively the ‘instructor’ gets it right by taking it step by step, by doing things over and over again, and by spending as long as necessary to succeed. The elegance of the gesture and the bearing of the voice are what will ensure success.

The child learns to carry out instructions which are impeccably conveyed; both the instructor and the executor are physically relaxed and mentally focused. The child will then become the instructor using the same precision to convey commands and expect the same quality of performance.

It's a sort of roleplay with its own rules: the participants "play" at getting it right and doing it well, there is neither prize nor punishment. Participants experience the joy of success and feel proud; they are in control of their body vehicle and their minds are at ease.

Adult training

The explanations given here and the instructions in the Technical Manual are all you need to use the method Thinking experienced through body movement as a tool for teaching. However, it is never easy to set out on your own without any help or training. Adult training in using the method is based on the same structure as given in this book. Each adult should experience each exercise as though they were a child: even walking on all fours! It is important for each adult to do the body movements to understand how they generate the thinking which is the foundation of the method.

Then all the trainees learn how to give instructions clearly and precisely. Each participant takes part in each phase of the course: body movements, applying the method to school needs, completing the work sheets during this training course which is extremely demanding and meticulous. This training course is not for personal development, although several trainees have said that, at the end of the course, they have noticed a change in themselves. The basic course lasts for five days, or three weekends, and is followed by several practical training sessions.

Practical Course

Monitoring the children does not mean that you have to follow the book page by page. To understand how the method is best used, the ideal way is to follow a course along with the children. Spectators are not allowed: anyone present must take part in exactly the same way as the children, both following and giving instructions.

A session of “Thinking experienced through body movement” with children

Being in charge of a group requires specific skills, which leaders, educators, and teachers know well. The method is not appropriate for a whole class because the adult must be able to confirm each personal achievement. That’s why we limit the number of children in a group to 7.

Sessions can take place in a multipurpose room or a small gym room, but never in a classroom. However, there must be an area in the room which is reserved for schoolwork, with the possibility to sit on a chair in front of a desk or table.

A training agreement concluded between child and adult

On arrival, the children must say why they have come for the course. Some will talk about their problems at school, others will mention their forgetfulness, or perhaps even behaviour problems. However, for some children it is difficult to even dare to talk about their failures. That’s why the contents of the course are presented as though the children have come to prepare for a driving test. They are going to learn about their bodies, how their brain works, how to situate themselves in time and space, both physically in the room and mentally on a worksheet. The children make a spoken promise to respect each other and the rules of the ‘game’. This is then recorded on the first worksheet of a folder which they will continue to add to and complete throughout the course.

Personal goal

After that, they are asked to determine what they hope the course will do for them and write it down on another of the worksheets. Indeed, some of the reasons for doing the course will have been discovered and named during the interview but it is possible that the child doesn’t remember what was said or has their own preferences. In this case they will need help in naming precisely their needs. For example, for a child

who says that they are too slow in their classwork, we will suggest that they ‘learn to drive at several different speeds’.

I often say that you already know how to do this thing, so I am going to coach you on how to do that thing. Then you will be able to choose, either to do this thing or to do that thing and you will not be stuck. See the “Goal and agreement” section in the appendix.

Pattern of the course

Each session is structured around the following key activities:

– Agreement / Report
– Doing / Thinking
– Written work : on a worksheet (permanent), or on a board / slate (temporary)
– Speaking
– Times for free play, alone or in groups

The leaders must know how to organize these phases to prevent the children from feeling bored or tired and to encourage them to want to do things and have a positive attitude.

Times for free play

There isn’t a regular “playtime / break” (as in schools). It is the leader who decides that it is ‘free time’ when they feel the need for it. I am in favour of several ‘times for free play’ during a half-day session but always between 5 and 20 minutes, maximum. When time is needed to help one child do something successfully, and so as not to bore the rest of the group, the other children are allowed to play quietly on their own, without speaking. This works well with a group of 7 children.

Meal times

This is an important moment: the children bring a packed lunch, and so does the leader who will stay with them during the meal, making sure they sit and eat sociably. In general, I allow a break of an hour and a half with a long playtime after the meal. The games are not organised, but the children can use the equipment which is there.

When possible, outdoor play is preferable. I am always there during playtime, moving from one child to another and playing with individuals or groups. This is an ideal time for talking freely with the children outside the organised activities for the day.

Calming down after lunch

After the lunch break, the afternoon always begins with the same ritual which allows the children to regain focus and helps digestion. The children return to their individual mats and lie down quietly and calmly. The adult indicates some, or all, of the exercises described in Peptic Gym in the appendix. As the days go by, the children's progress both as individuals and as group members becomes more and more obvious.

The end of the day

After asking the children to put all the equipment away, each day ends with a short assessment of the day's activities. Each child gets the opportunity to say what they have learnt, and what they liked.

Session report

At the end of a course the parents are invited to attend a presentation of what the children have accomplished. Each child chooses the exercise they want to show. The leader makes sure that the presentations are all different and that an example of each step of the course is included. If two children choose the same exercise to show the parents, the leader accepts but suggests some variations or else the two demonstrate the 'instructing / checking' procedure. This presentation shows the parents the difficulties that their children have overcome as well as explaining the reasons for each exercise.

Course compendium

Little by little, throughout the course, the children complete their own folder with the exercise sheets they have been given. They are usually very proud to show this work to their parents. Occasionally a child forgets to take it home but that is not too serious because they have 'experienced' the contents which are etched in their bodies and minds.

The length of a session

For those children who are not in need of special attention, the aim of the session is to help them progress rapidly. There is a set program for them which must be followed to the letter. The focal point is to teach them to locate themselves in space using the directional cross. These sessions are intended for school children around the ages of seven or eight (second year of junior school). A session lasts for five consecutive days. Sometimes with a group of seven children who vary in age and ability, three days proves to be all that some of them can manage, because the rhythm becomes too intense. Experience has shown that a three-day session is a minimum to obtain significant results, particularly if working on behaviour. Five days give sufficient training time to establish a change of attitude and improve key concepts.

That's why it is important to know how to guide each child, taking into account their age and difficulties: do they need individual attention or group activities? For children who have been given individual attention, it may be useful to let them do a session with a small group of other children at some point in the future. Cécile made a comparison with gardening: you transplant lettuce seedlings when they reach a certain size to help them grow better.

A TECHNICAL MANUAL

OF THE CECILE PATIN METHOD

FIRST STAGE

DEVELOPING SELF-AWARENESS

1. Developing awareness of body mass, breathing, and weight on the ground

Cécile sought to find a firm rooting and grounding for children who could get lost in mental ramblings, or in a maze of their mind, through the feeling of their own body on the ground.

Body mass

The goal is to develop awareness of the weight of the body by moving on two or four points of contact with the ground while imitating various animals: bear, rabbit, frog, duck, and sparrow. Even when not moving, the body still has weight: we can also feel our body mass by lying on our backs and rocking backwards and forwards.

- On four limbs (quadrupedal) : complete a lap of about 8 metres without falling over. Practise the flexibility of the motions, check the correct posture, and find out how possible it is to make the body movements consistent.

- Bear crawl : the way this works is to follow an alternating sequential movement of each paw. Make sure the feet keep in line with the hands. Aim to bring the thighs up to the tummy, which will be quite an effort, especially for the overweight.

Learning alternatives:

- Camel walk, in which the two right-hand limbs move together followed by the two left-hand limbs.
- Wounded dog, in which one foot is not put onto the ground (they must then work both sides uniformly). This exercise can also be done with the 'wounded' leg stretched out: this becomes a preparatory training exercise in maintaining balance.

- Bunny hop: jump forward in two stages, first moving the hands forward then bringing both feet forward together. Some children may try to start by bringing their feet forward, but this should not be allowed.

Learning points: careful checking of the distance, the speed, and the balance.
Learning alternative: make one sound as the hands hit the ground, "flip" for example, and another sound as the feet hit the ground, "flop" for example. You could say "flip-flop", "hippety-hop", "see-saw", *etc*.

- Frog jump: leap into the air from all four limbs at the same time, using the hands to balance the landing, especially for the 'eager beavers' who may otherwise fall flat on their faces.

Learning points: leap high, leap through hoops, and say "plop!" Make as little noise as possible when landing to get fine control of your weight (reduce the impact).

➢ On two limbs (bipedal): these are exercises to strengthen muscles by moving in a squatting position, not letting the hands touch the ground (they can be placed on the waist) and not dragging the feet.

- Duck waddle: in a squatting position, move forward by moving one foot at a time and slightly raising the pelvis on each step. To manage this, you need to act like a spring, not allowing your feet to drag or slip out sideways. It's like being the suspension of a car. This is often heavy work requiring a lot of muscle effort.

Learning points: do three duck waddles, then stand up and take three steps to loosen up, and repeat.

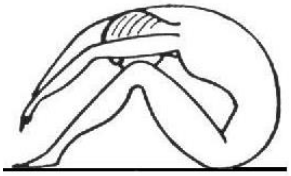
- Sparrow hop : in a squatting position, with both feet together hop on the spot lightly. Watch out for the leg muscles becoming tired, in which case this is something that needs working on.

Learning points: do three sparrow hops, then stand up and take three steps to loosen up, and repeat.

➢ On the torso: in order to feel your body mass through your backbone with your back pressed to the ground.

Rocking backwards and forwards: start off sitting, rock backwards, and then return to a sitting position. Be sure to roll smoothly on the spine (don't bump backwards), throw the arms out first (to protect the head) before touching the ground with the feet, keeping your knees by your ears, and breathe.

Learning points: some children can panic about rolling backwards, so if they are apprehensive, it might be necessary to proceed in stages by tackling some intermediate exercises. Starting from a position lying flat on their back, with the legs bent and the feet on the floor, they can bring their legs up to their chest and then let them unfold: their knees will reach the level of their ears. Then they can return them to the ground and sit back up again. Starting again like this can help lessen the anxiety as well as developing the flexibility of the back. Sometimes you might need to intervene manually to guide them through the full rocking movement, with gentle persuasion, persistence, and always with continuous deep and calm breathing.



Cécile Patin observed that overcoming this difficulty could allow a child to feel reassured, and their body could become more of a friend to them. It seemed that when they had succeeded once they would then want to do it over and over to experience the pleasure. This kind of "snuggling-up" into oneself can become both a physical and psychological comfort. As a result, this "coiling up" exercise is something she would get all her students to do, by way of contrast to the arched-back positions that can indicate reticence. This discovery seemed to her to be a natural law, and it inspired the logo of the association.

Breathing

In order to channel the anxiety of falling backwards in the rocking exercise, it is vital to work on breathing. Breathing in happens automatically, so what counts is the breathing out. It is important to breathe deeply and slowly during the exercise, as this will flatten and empty the rib cage; that will make the space to achieve the complete roll. Also, the sound of the breathing out allows a child to notice and identify the movement involved and carry it out better.

Breathing is not always recognised for its vital role, because it an unconscious act. Everyone knows that it involves two movements: breathing in and breathing out. However, if you ask someone to breathe during an exercise, you'll see them breathe in deeply, even several times, while skipping the full extent of breathing out. In first aid (rescue) situations, to restart breathing, paramedics start by pressing on the rib cage to empty the lungs which will trigger the reflex to breathe in.

Mastering proper breathing techniques is necessary for singing, but also for fluent speaking (problems with stuttering), and indirectly for thinking. Projecting your voice is linked to projecting yourself: overcoming a lump in your throat or your voice quavering with emotion. You can see the link between emotions and breathing out: a breath cut short, a sigh of relief or of satisfaction, a shout of laughter, sneezing, blowing your nose, shouts or screams of joy or fear or anger: all of these depend on breathing out.

Learning points:

Breathing out until the last lets you see how breathing in happens automatically.

Put your hand under your nose and feel whether the air is warm or cool.

Blow bubbles with soapy water; blow out a candle; blow through a straw to make air bubbles in water.

Focus on breathing through the mouth or through the nose, or breathing in for one beat and then out for two beats *etc*.

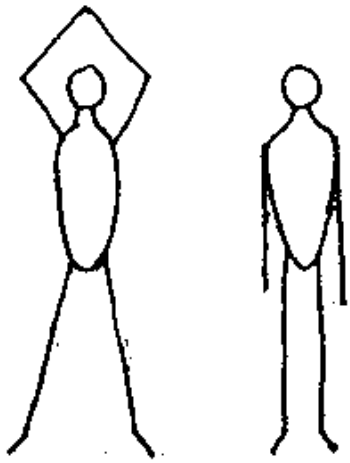
A breathing race: flat on your tummy blow a piece of scrunched-up tissue paper and crawl forwards (or walk on all fours) to cross a finishing line. This can be done individually or as a group: children love this game.

Weight on the ground

Once the weight of the body is perceived you can learn to feel how that weight is transferred through the points of contact with the ground.

- On four limbs (quadrupedal): spin round on all fours and feel the weight of your body. Put your weight mostly on your hands, and then mostly on your feet, from front to back, from one side to the other, go round in a circle: the aim is to find the distribution of weight on the ground that's most effective in each situation.
- Standing up: lean gently forward to put the weight on your toes, now lean back gently to put the weight on your heels, now lean right to put all the weight on the right foot, then without lifting either foot from the ground put all the weight onto your left foot. Move back to the centre to spread the weight equally on the soles of the feet: your toes should be free to move. If they're clenched tight, that means the weight of the body is too far forward.

2. Developing awareness of how others see you



➢ Play at 'Jumping Jack' (star jump) as though you are a marionette (articulated puppet). From a standing straight position, jump and spread your legs wide with your hands going overhead (bring them together, maybe making a clap), then return to a position with your feet together and your arms at your sides. When a child spreads his limbs wide then brings them back close to his body, he can visualise the effect: "out (spread)" and "in (close)". To help the child develop this awareness the teacher can take photos during the action: the child can then easily connect images of the two positions.

Many children cannot manage this exercise because they lack the necessary physical control. They will first need to develop their psychomotor coordination.

To achieve coordination of their four limbs, a child can add sound to help master the movement. For example, by saying "Hoop-la" out loud to accompany the two stages: "Hoop" to accompany the strong action, spreading out, and "la" to accompany the gentler action, closing in.

Learning points:

- Focus just on moving the arms. Add the sound: say "Hoop" while opening the arms sideways all the way until the hands meet again over the head, and say "la" while letting the arms sink back down. Pay particular attention to opening the arms fully to the sides.
- Focus just on moving the legs. Say "Hoop" while jumping to spread the legs and say "la" while landing with the feet back together.
- Now combine both of these.

Now it's time to develop the concept of the starting position for each stage of an action. If there is a motor control problem, it can help to give a significance to each movement: for example, "open" and "close".

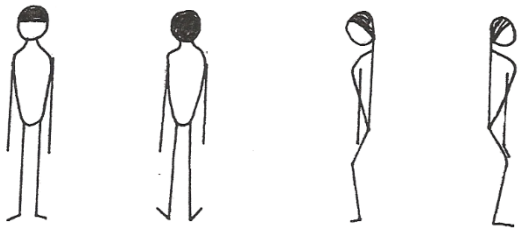
➢ By observing someone else's body first, the child is invited to make a complete turn on the spot, so as to present four aspects of themselves which they should name: front, back, left profile, and right profile. To do this they will need to have correctly identified the four positions.

Learning alternatives:

Play at taking photos: take a photo of the child in different positions, then let the child take the same photo of another person.

Look at pictures of a person and pick out the four positions.

Now try it on the ground: roll on the ground, stopping in each of the four positions. This adds a new aspect: on your back, on one side, flat on your tummy (often missed by children), and on the other side.



To finish with a bit of fun, you can play a sort of wrestling game where the players must say what they are doing: 1) stand face to face, with hands on each other's shoulders, and push until someone moves backwards; 2) stand side by side, with shoulders touching, and push until someone moves; 3) change sides; 4) stand back-to-back, with backs and bottoms touching, and push until someone falls forward. Of course, you must not allow any brutality!

3. Developing awareness of the parts of your body

The body is an intricate machine, and it is important to know where the main parts are. Experience has shown that unawareness of the torso is an obstacle to fulfilment, and it can be very difficult for a child to realise the importance of the torso. It may be necessary to start with a pictorial representation. The head and the limbs are more readily located.

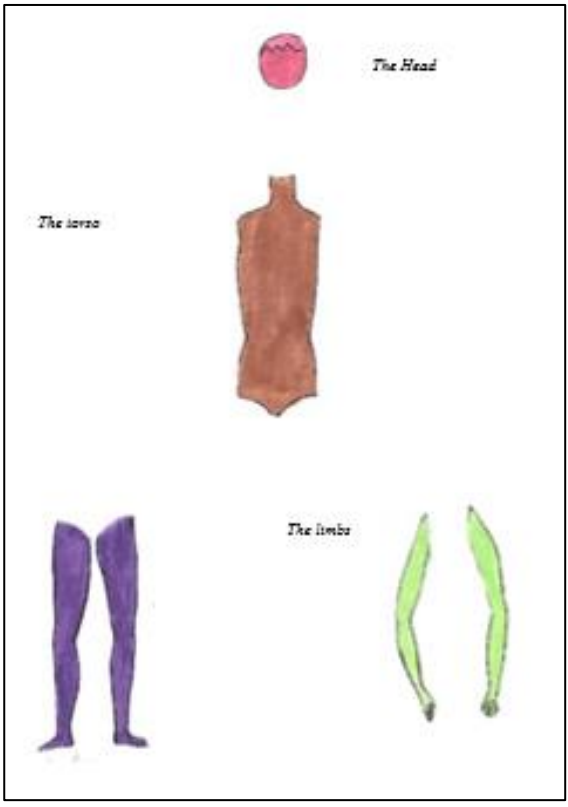
The torso, the head, and the limb

Suggest drawing a tree and naming the trunk and other parts in order to link this back to the human body. Various other options are possible:

Draw a head on top of a torso and add the four limbs. This could be done in a sketchbook, on a slate, or on a whiteboard.

On an outline figure of a person, colour the torso brown. Don't forget to colour the neck too, as it's often forgotten that this is also part of the torso.

Colour all the upper limbs in one colour and then the l ower limbs in another colour. To reinforce these terms, it might be useful to try various forms of physical experience together with the vocabulary: climb to the upper step of a staircase; arrange everyone in height order and compare those at the upper end and those at the lower end; place objects onto shelves and ask questions about where they are; press the buttons for a lift; *etc*. You can also play 'Jumping Jack' and move just the upper limbs and then the lower limbs.



Cut out the outline figure: cut the head off, and the four limbs, and then the torso is what remains. Take those pieces and glue them onto a sheet of paper. Children will want to try to reassemble the pieces into a figure but ask them to glue the head at the top of the page, the torso in the middle of the page, and all four **limbs across the bottom of the page.**

A study of footprints

This study aims to provide the experience of how the body machine can hold itself standing straight with confidence and stability by placing the feet in an open position. This exercise in corrective gymnastics is aimed at teaching good posture.

The placement of the feet is based on a star excursion diagram as used by Dr Philippe Tissié, one of the earliest French neuropsychiatrists, who used it to study the positions linked to good posture. Cécile Patin used the star diagram both as an exercise in spatial awareness and as an exercise in thinking using circumduction motions. The Cécile Patin method culminates with a detailed graphical representation of ten star excursion positions.

Suggested activity

A stability game to do as a group: First, everyone should line up, side-by-side, each with their feet pressed tight together. Then everyone holds out their right arm and rests their right hand on the shoulder of the next person to their right. Now tell everyone to push their neighbour steadily. Inevitably this will lead to the line collapsing. Now this time, everyone should spread their feet apart as wide as their hips, then pivot on the balls of their feet to bring their heels together, and finally bend their knees slightly. Now tell everyone to restart the steady pushing of their neighbour. See what a difference this makes to how resilient the line is.

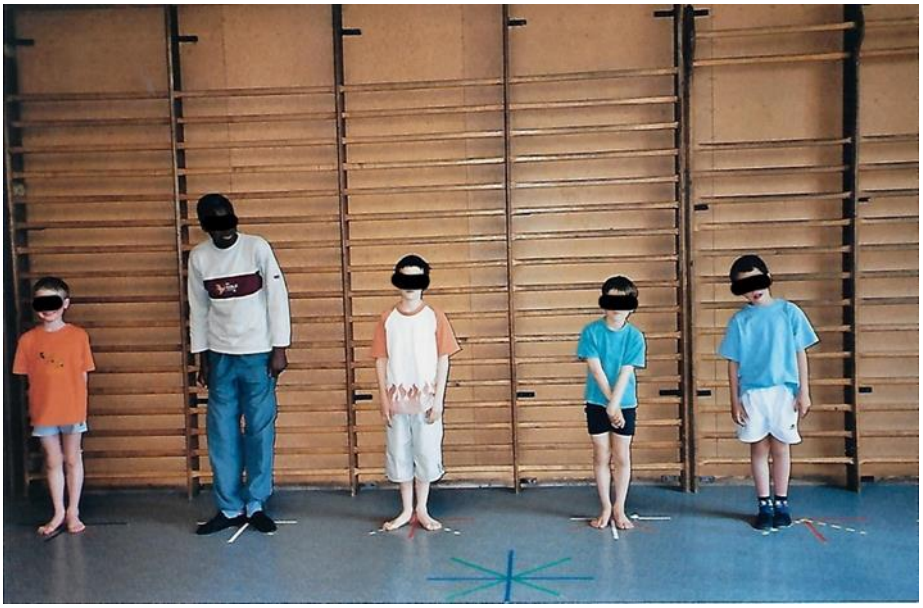
At this stage of exploring your footprint positions it's enough to look for stability and see where the feet end up: by increasing the floor area covered by the feet (the "support polygon") balance is improved. Suggested diagram:

Narrow base:

Wide base:

This awareness exercise enables better accomplishment of several key aspects of standing upright with good posture: standing straight without needing to lean on anything; feeling balanced on both feet with equal weight, as already worked on in the weight-on-the-ground exercises; and unlocking the knee joints.

In this photo we can see children attempting to place their feet on star alignment marks which Cécile had made on the floor with adhesive tape. Their heels should be touching, and their feet placed along the diagonal dotted lines. Only one child in this photo has his feet in the right position and is standing straight with a relaxed posture.



A correct body posture is essential in educational gymnastics. You should have a good appearance and position at all times, both when standing and sitting. The main reason for this is to release tension in the spine which is supporting the skull. Having your head in the right position – like a "stopper in a bottle" as Cécile put it – allows the brain to get the oxygen it needs.

In corrective gymnastics, the lower members of the body are called the 'undercarriage'. When they are in the right position they ensure the stability of the trunk, free of tension. The idea of seat and poise, the way to sit, position and bearing, all contribute to having confidence and dynamism.

The "zero point"

This is an exercise to use your points of contact on the ground to visualise the fact that each of us is at the centre of a personal space. This concept of "zero point" is fundamental to the method. It can be used to locate yourself in space, in time, and to orient yourself. In the same way, the "zero point" of London is a plaque in Trafalgar Square which is where distances from London are traditionally measured from.

Cécile Patin would ask children standing on the spot to mark a small cross with chalk on the ground beneath their feet, to show their point of contact on the ground. After having them walk several steps away, she would then ask the following question: "Where is your point of contact with the ground?". The reply would invariably be to point at the chalk cross. But she would then say "That spot is now empty, because you're not there anymore. So, where is your point of contact with the ground now?"

When we are standing up, our "zero point" is beneath our feet, and when we are sitting down it is under our bottom!

To conclude the work of developing awareness of the parts of your body, Cécile Patin would say "A person consists of a trunk supported by two pillars which have feet at their foundation, with two arms attached, and a head on top which sends and receives messages".

This leads us to talk about the head, the brain, and to explore what thinking is.

4. Developing awareness of your mind

If the feet are a foundation for the machine that is the body, the bodily foundation for the mind is the brain. One of its capabilities is conscious thought, which can move away from its starting point both in space and in time. Thoughts that are controlled become thinking.

Who's the boss?

1. Introduce the brain: that's the name for the organ (the soft substance) which is protected by the skull (hard).
2. Ask questions: *What is the brain for? What does it do?* It is sometimes difficult for children to find the right words. Three actions must be made distinct :

The brain commands the body : he's the boss. *Your brain commands your body, and that means you are your own boss!* If the children feel proud to be called 'the boss', this is a good time to remind them that it's up to them to control their movements, their words, and their actions (autonomy leads to responsibility).
The brain thinks
The brain thinks about things

It is useful to explain the functioning of the brain, and not only to precocious children. Explain as much as you feel is useful: the brain has two hemispheres: the right hemisphere recognises shapes, perceives the world as a whole, controls creativity and imagination, *etc.*; the left hemisphere controls logic and rational thought, time and number, and language, *etc*. These two functional parts each contribute to how we learn. The left hemisphere controls the right side of our body and vice-versa. There are other functions that are localised to parts of the brain: vision, taste and smell, balance, *etc*. Most of the time we use only a small fraction of our brain's full potential.

Next, we can introduce the abstract concept of thought in order to be able to explain what thinking is.

The seat of thought

Some questions can be asked to help localise the mind and to understand the coming and going of thoughts: Where does thinking take place? In which part of the head ?

To convey different emotions, Cécile used portraits of "Bécassine" (a young Breton housemaid character familiar to French schoolchildren at the time, usually drawn wearing a peasant costume with headdress and clogs – Cécile probably chose this character because she is usually portrayed with simple stylised features). By adding eyebrows to the blank face, different emotions can be shown: sadness, anger, surprise (see book 'Bécassine fait du scoutisme'). Today we use emoticons in the same way.

sad

angry

surprised

1. Recognise different emotions.
2. Notice the different angles of the eyebrows and highlight them on the portraits.
3. Ask questions: Where are the eyebrows? They are above the eyes, on the forehead.

In the sixties, when Cécile was working with the children in her care, it wasn't normal to talk much about emotions. Nowadays children are taught the necessary vocabulary to be able to express their feelings.
Conclusion: the front of the head is the seat of thought
The brain is fed on information given by the senses.

Sensory organs

The brain receives signals that it processes or absorbs, then it initiates actions. These signals come from sensory organs.

Suggested explanation: an organ is a part of the body which has a distinct function.

Encourage learning by questioning, or by acting out situations to ensure that the youngest are able to get the right answers too. In the end, the older children should be able to read or write on a card: the eye is the organ of sight, the ear is the organ of hearing, the nose is the organ of smell, the mouth is the organ of taste, the skin is the organ of touch. And the brain is the organ of mind!
Physical experience: Kim's game
Mind game: think of a smell, a taste, *etc*.
Message from Cécile Patin: the brain is the organ of mind.
This enables us to see that mental images can be auditory, visual, tactile, kinaesthetic, gustatory, or olfactory.

Extending mental images

To introduce the notion of flexibility of one's thoughts, you can ask some simple questions:

- *Thinking about your bedroom, what colour is your bedspread?*
- *Where is your bedroom? (What town?)*
- *Your bedroom is **there**, in X town. You are **here**, in Y town.*
- *If you lift your arms, your thoughts are with you right here (telling you how to lift your arms)*
- *If you think about your house, your thoughts have gone **somewhere else**.*
- *What colour is the kitchen in your house?*

- *Now do 3 frog leaps. Your thoughts are right **back here** again.*

The questions can include other sensory memories: this extends the mental images even more.

- *Send your thoughts to the seaside and try to smell the sea air and hear the sound of the waves…*

Cécile's conclusion: thoughts come and go but the brain doesn't move.

Thought field

➢ Thoughts can travel in space and time.

The coming and going of one's thoughts can travel far away (holidays abroad) or stay close:

- *Can you tell me about something about your last holidays? (an anecdote or just a detail)*
- *Without turning round, can you tell me what is behind you?*
- *And what's behind the wall?*
- *Close your eyes! Can you tell me what is next to you?*

Conclusion: thoughts can move backwards and forwards, to the sides, here and elsewhere.

➢ Thoughts can travel in time

a) Ask the child to tell you about three things they do during the day: one already done, one they are doing now, and one which they will do soon. For example: "This morning I drank my hot chocolate. Right now, I am working with Agnès. When I get home, I shall have my tea."

b) Ask about happenings to position them in time:

- *Yesterday I was with Grandma and Grandpa; last week my tooth fell out; last year I was in ?? grade; three years ago, I…*
- *Tomorrow I'll go to the swimming-pool; next week I'll be on holiday; when I'm 18, I'll pass my driving test; …*

This investigation of the notion of past and future is not straightforward. It is even more difficult when we add the present: things that are happening right now, instantaneous or continuous.

- *Today I am doing a course; this year I am in 9th grade; I've got curly hair…*

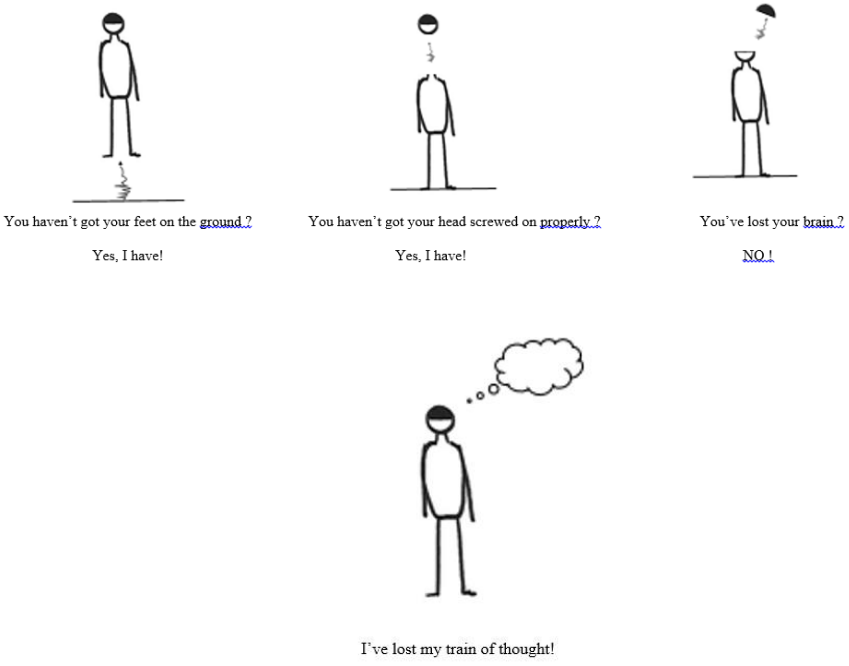
Young children say "right now" to express both before and after. To practise the notion of before and after there are some memory games: play

at “doing the shopping” or play at giving out missions to be accomplished (see later on: games of ‘agreement—report’).
Cécile Patin’s conclusion: The thought field is not constrained in space or time.

From stray thoughts to really thinking about things

We have seen that the brain is inside the skull, which is itself part of the body, so the body is the basis of thoughts. But these thoughts can move around and reach anywhere. You can think of them like helium balloons held by a thread: if you let go of the thread, the balloon floats away and is lost. When thoughts are lost, when the link between body and thoughts is broken, thinking about things becomes impossible.

In “thinking about things” we have this word “about”. Cécile Patin’s approach: thinking about things means turning thoughts about, onto oneself. Some pictures for exploring this with children:



To think about things, I need to hold on to my thoughts by gripping that mental thread tightly.

I can think about several things by holding several balloons at the same time.

The connection can be lost because of distractions, but also because of stress or tiredness. So it's important to ensure frequent breaks are included in activities and some free play is scheduled. However, we should not feel guilty about the distractions: it's ok to let your mind wander sometimes, but it's important to be able to catch hold of the balloon again (with an effort of will).

Mental strength

Thoughts are full of ideas, and each is connected to the basis in the body. To think about things, we must grip that mental thread in order to hold our thoughts in the "here and now". This is a conscious act that requires effort, and this can be practised and developed. Mental strength and physical strength combine to make a whole: our understanding of ourselves and experiments with our strength and with the efforts we need to make give us a reference for our mental actions.

In order to experience the effort of will that is required, compare it to the effort required for physical training. You can also do a form of mental "competition".

In this way, a child can see how they could practise thinking about things for a specified time, or doing several things at the same time, or indeed to stay focused through visual or audible distractions. This can be particularly helpful if the goals are discussed with the child ahead of time.

When a child practises doing a sequence of arm movements five times, during which they manage to get the movements right, report their arm positions as they do it, and count the number of times they have done it, they are practising thinking about three things at the same time. This will be explored more completely in the chapter "From the mental thread to voluntary movement".

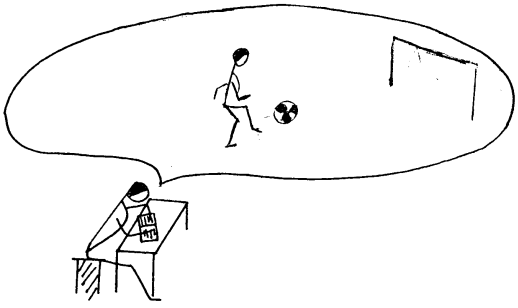
Physical energy and mental energy

It's important to recognise that our thoughts are independent of our body activity. The freedom of our thoughts is in contrast to that of our bod-

ies. This can form the basis of a programme to develop awareness with children who are restless or have symptoms of ADHD (but not necessarily diagnosed with ADHD).

1. Night-time dreams: ask participants to talk about a dream they had where something happened to them personally (for example: I was flying through the air) and draw it into a large thought bubble. In actual fact, you were in your bed, and your body was inactive: it was your thoughts that were in action and doing all the work.

2. Daydreams (wishful thinking): ask participants to talk about, and then draw, a physical action they would like to do (for example: I am playing football). In actual fact, you are sitting and drawing: it is your thoughts that are doing all the work through your imagination.



Thoughts drive movement

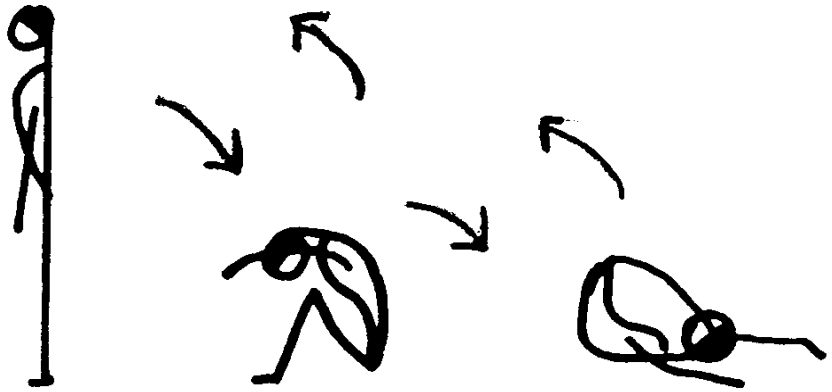
"Oh, I've lost the thread of what I was going to say…" We often hear people say this, but it doesn't actually shed much light on how the mental thread works, because it's something we can't touch or feel. However, one

way we can explain it is by using cartoon images: thoughts can be represented by words (or pictures) in a thought bubble linked to the person who is doing the thinking with little bubbles or dotted lines. This makes an effective way to show what Cécile Patin called the "mental thread". You can visualise this thread, its tension, its loss, and act out the gesture of holding on to the balloon.

To help a child hold on to their thoughts if their mind tends to wander, Cécile Patin used a sequence of events. After making sure the child knows the movements and can remember the names of all the positions (which is an important exercise of its own), ask the child to say out loud as they reach each position: "Standing-Sitting-Rocking-Sitting-Standing".

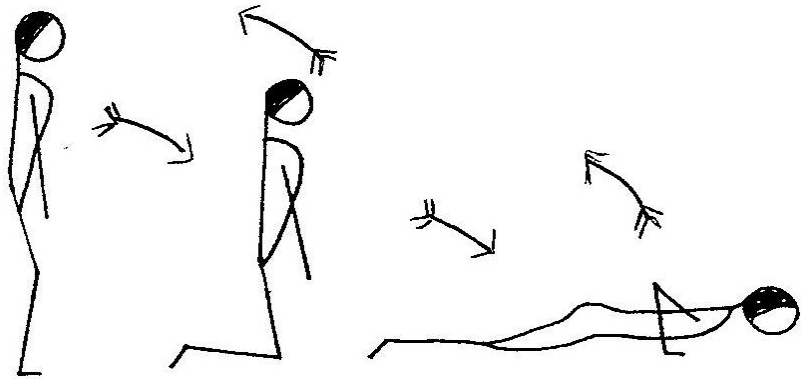
Take note of any obvious mistakes, which are often caused by rushing, such as :

- a physical mistake: the child starts off and sits down while saying *"Standing"*.
- a verbal mistake: on the way back up, the child says *"Standing"* while they are still sitting down.



To help them spot these kinds of mistakes, the teacher should give a neutral *"no"* and then give the child the chance to get back in sync with their position, with a *"yes"* of recognition when the posture and words match up again.

After working with this sequence, which has the body moving backwards, another sequence of events can be tried, this time moving forwards: "Standing-Kneeling-Flat on your tummy-Kneeling-Standing".



Cécile Patin noticed that some children can't carry on once they reach the "flat on your tummy" position. They can't see how to get back onto their knees starting from lying flat on their tummy. Hopefully once the sequence of thoughts is mastered in one direction the child can learn how to apply it in either direction, "sliding" more and more easily from one thought to another as if the mental machine and its wheels are being well oiled. She considered that holding onto the mental thread can be trained just like a muscle.

To this end, she prepared a set of 12 principles regarding the linking of body and thoughts through gymnastics: this is typical of Cécile's philosophy which has always been to move a person's body in order to get their mind to work. Here are three of those principles: *mental movement* is comparable to physical movement; *mental energy* is comparable to muscular energy; mental movement generates heat.

The exercise and movements of the mental thread made her think of lines in a geometric diagram: the mental thread can rise and fall, move from right to left (and vice versa), and also turn on the spot or move around in a loop. For example, "the train departs at 12:50" makes your mind think about the clock hands in a clockwise direction, but "the train departs at ten to one" the mental thread runs in the other direction. To return to a physiological analogy, we can call it a "*mental circumduction*". This point is the outcome of the mental training devised by Cécile Patin, and it is developed at the very end of this technical manual.

5. Developing awareness of your body's structure

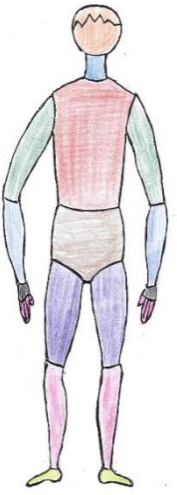
In an educative gymnastics workshop, the accurate locating and naming of each joint can help establish static balance (standing upright) and correct poor posture. Cécile Patin would always name the joints in the undercarriage and spinal column. For difficulties with stance, the same knowledge linking the exact name with touching the part of the body and the way it moves has been useful. Exercises to explore the body structure gives children a foundation: their body map is fleshed out; they can feel their presence solidly and can in a way feel calmer.

Before approaching the details of articulation, it's important to make sure the parts of the body are well known. With the youngest children you could talk about the different "pieces" of a person (like a jigsaw).

Body parts

Have someone put together their complete body plan from bottom to top by stacking up the parts. They should direct their thoughts down to their feet, then gradually work up through each of the levels, taking stock of themselves. When they've finished, ask them to touch and name at the same time each part of their body: feet, legs, thighs, pelvis, chest, neck, head, the arms, fore-arms, hands, fingers.

This work can then be transferred onto paper: the youngest children can colour in different parts, while older children can write in the names.



For colouring, they can be told to use different colours for each part. The following colours for the parts of the torso could be required :

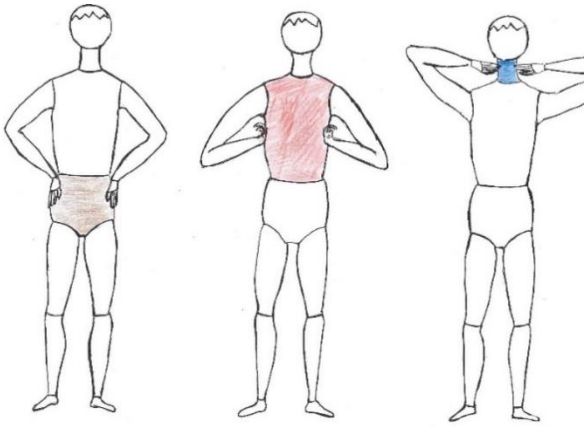
- brown for the pelvis, which refers to the digestive functions (and what comes out!).
- red for the chest, which refers to the heart and the circulation of blood.
- blue for the throat, which refers to the airways and breathing.

While we've already encountered the notion of sensory organs, we can now talk about their individual functions. The concept of internal and external organs will be explored in the chapter on positional awareness

Parts of the torso

Ask the child to name the parts of the torso and draw them one by one on a picture: this will probably show some gaps to fill in. For the youngest, when they say “tummy” draw in the pelvis, leaving an empty space above where the head and the arms need to be attached. This will then enable them to think about, name and distinguish the chest and the neck.

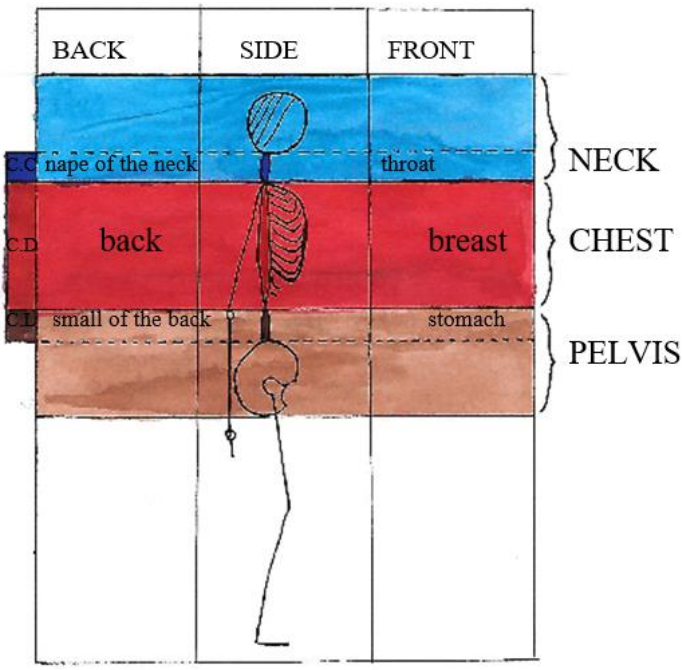
From 6 years on, the appropriate terms for parts of the torso can be used. We can start by pointing to the bottom, middle and top of the torso. It can also help to draw parallels with the clothing we wear on each part: underpants or shorts, vest or tank top, scarf or collar.



To take this discovery of parts of the torso further, especially for a child who is struggling to identify front and back, Cécile Patin would ask them to put one hand in front of the pelvis and the other hand behind, then to name what they are touching: new words are discovered this way. In front of the pelvis is the tummy or stomach, while behind is the bottom. In front of the chest is the breast while behind is the back. In front of the neck is the throat while behind is the nape of the neck.

A summary picture showing parts of the torso might help conclude a fully rigorous teaching approach. Such a picture could be useful for a child who needs to solidify their body experience, as it would enable them to see and comprehend. “I don’t often use such a summary picture, but I do systematically check the child’s knowledge of their body by naming and touching the different parts.”

To learn *front* and *back*, for children with learning disabilities or who are very young, have them touch and say as often as needed: “my nose is in front, and my bottom is at the back”.



The joints

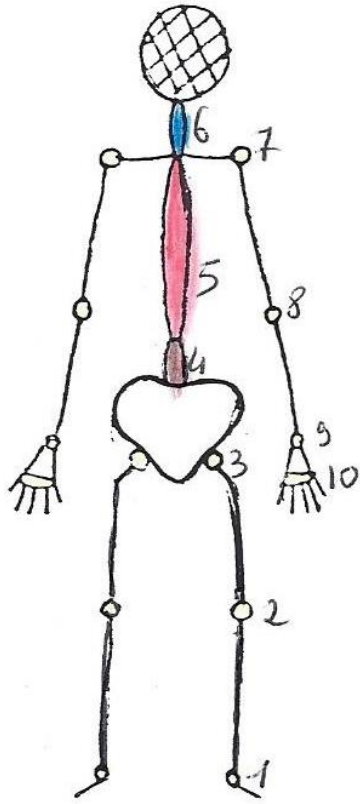
To understand how joints work, ask them to find the hinges on a window or even on a door, and ask: *what are they for?* The hinges allow the door on the one hand to be fixed to the wall but on the other hand to be opened and closed. A joint is a hinge in our skeleton: it enables our body parts to move.

So, what we need to do is to look for the joints to find where the parts of our bodies connect together.

To begin with, when focusing exclusively on good posture, Cécile Patin primarily identified: ankle, knee, hip, lumbar vertebrae (lower back), thoracic vertebrae (upper back), and cervical vertebrae (neck). To make them easier to work with she numbered these joints 1 to 6. Later, as the children would ask for it, she added the joints of the upper limbs: shoulders, elbows, and wrists: this brought the count up to 9. In order to round up to ten joints, she added “base of the fingers” (metacarpophalangeal joints). This makes ten hinges to find and recognise.

Working on paper:

Colour and number the joints on a simplified skeleton without the rib cage showing: older students could be asked to add ribs just on the section coloured red (thoracic vertebrae).



Children and adults alike don't often separate the terminology for body parts from the terminology for the joints, especially around the trunk. But an exact understanding of the body plan is necessary to apply Cécile Patin's method.

With younger children, instead of working on paper you can use mime. You could imagine you have two boxes, one for the body parts and the other for the joints. As they name what is being pointed to, pretend to put their answers into one box or the other. Finally, they should be able to put all the right pieces into the right boxes <u>in the order the parts are stacked up in our bodies</u>.

Locating the joints

After the learning stage, the body exercise consists of touching and naming the hinge joints using the numbers. This can be developed progressively until it can be done quickly and confidently.

At first the person can work at their own speed:

- locating the joints by position and describing them: they can say "between the foot and the leg there is the ankle" while touching the appropriate body parts as they are named, and so on through the remaining joints.
- locating the joints simply by number: they can touch each joint giving the number 1-10 as listed above.

As a second stage, the person can follow instructions given by a leader. They should take turns as follower and leader.

- locating the joints as ordered :

The leader taps a regular rhythm on a tambourine while calling out the numbers of the joints. They can say "*first hinge*", then wait for the follower to touch their ankle accurately. To fix the way the rhythm works the follower should say "*Hoop*" as they touch their ankle and "*la*" as they return to their normal position (standing upright with arms at their sides). The leader then continues through the remaining joints.
NB continue until the child can complete this equally well as follower and leader. Some children will find it helpful to be the leader themselves before they can follow the instructions of another leader successfully.

As a third stage, a rhythm is set : this needs a fluent knowledge of all the joints and the movements needed to point to them so that the tambourine beats can continue without a break from the first hinge to the tenth hinge like a ticking metronome.

- locating the joints rhythmically: "*First* | *hinge,* | *hoop-* | *la*; | *second* | *hinge,* | *hoop-* | *la*; | …"

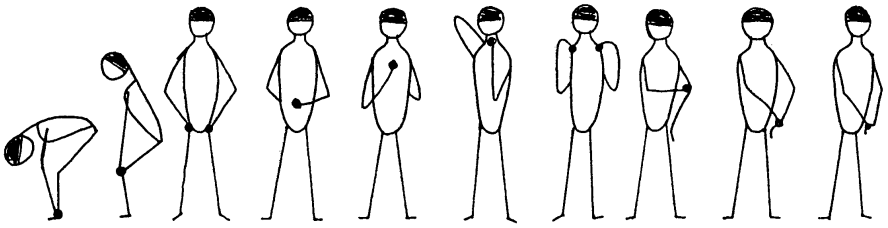
The leader taps the rhythm on the tambourine. They should say "*First* | *hinge,* | *hoop-* | *la*" with four taps on the tambourine, the first on "*first*", the second on "*hinge*", the third as the follower says "*hoop*" while pointing to their ankle, and the fourth as they say "*la*".

- different orders: the leader can call the joints from 1 to 10, or from 10 backwards to 1, and finally in random orders.

Although this exercise can take a while to be taught and understood, once they have cracked it children will come back to it easily. They enjoy the game, the rhythm, the flow, the collaborative harmony, and the reassurance of repetition.

In this exercise, the leader plays their instrument, the tambourine, and coordinates the followers: this is like being the conductor of an orchestra. They have a complicated job: they need to coordinate their intentions and their orders and the beating of the tambourine and watch over the followers to ensure they stay in time. A tambourine is often used to attract attention, but here it also takes the place of the voice of an adult or group leader: the child who is being the leader can only rely on themselves and not on an adult to be master or controller of the activity.

If the leader makes a mistake, the group will come to a halt, which calls the leader to account and forces them to think about it: so this is a way for them too to revise the joints and body structure. The whole group benefits from this revision exercise. The exchange of knowledge is helpful and effective.



Moving the joints

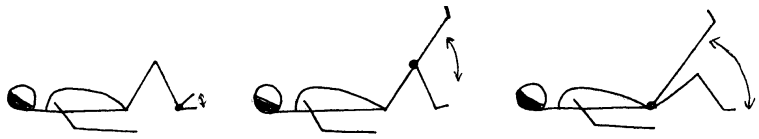
Naming and locating the joints helps to recognise them as seen from the outside. Now we need to proceed to an exploration of how each of them moves.

Since locating the joints is a way to think about them from the outside of the body, it remains for us to move on to another way of thinking about them by investigating the motions of the joints: we will move all ten hinge joints, one by one, by flexion and extension. When first introducing the research of the movement it can be done in a standing position.

Cécile Patin created a tutorial which can be done on a mat and develops *thinking from the inside* without relying on visual control. To get fine control of the movement requires intense concentration and can often be sustained by having someone else set the rhythm. This exercise is not suitable for the youngest participants but can be useful from about age eight onwards. By returning to this exercise over successive sessions progress can be made to end up with being able to move all ten hinge joints.

- Moving the lower limbs

Lying on your back with legs bent, movement of the *first hinge*, the ankle, can be done as a simple flexion (bringing the toes up towards the shins). A tambourine beats the time, and a leader calls "first hinge: one, two, three, and four" at which point we change ankles and continue "five, six, seven, and eight". The "*and* four" indicates that we're about to change side, while the "*and* eight" indicates that the movement is complete. Then repeat in the same way for hinges 2 and 3.



Moving the *second hinge*, the knee, involves pressing the knees together and then carrying out an extension/flexion by straightening and bending one leg. The knees mustn't move apart: if necessary, slide a piece of paper between them to ensure that the thighs and hips remain fixed in place. Stretch one leg in line with the thigh and say "one", then bring it back down to rest and say "two", and so on. The call is the same as before: "second hinge: one, two, three, and four, five, six, seven, and eight".

Moving the *third hinge*, the hip, requires stretching out one leg along the ground while keeping the other leg bent. To enable this to be done, the leader can say "Get ready for the third hinge…" which allows time for the leg to be straightened ready to begin. Then that straightened leg should be lifted without lifting up the pelvis or bending the knee, then it should be returned to the ground. So the call can go "third hinge: one, two, three, and four, … change leg …, five, six, seven, and eight".

- Moving the spinal column

You need to be a bit tactful when introducing the *fourth hinge*, the lumbar vertebrae (lower back), because this requires a tilting backwards of the pelvis, and for a lot of people it's not obvious how to do this, children and adults alike. Cécile used to help describe this movement by drawing on cultural references of the time, and I particularly remember her talking about "garter belt with suspenders too short". Or even some racier images, like "practice for wedding night"! And for the boys, "your willy to replace your tie"!

For the spinal column exercises the call changes because there is no need to change side. So, the leader calls "fourth hinge: one, two, three, four, five, six, seven, and eight".

On the odd numbers, tilt the pelvis "backwards", without lifting it up, so as to press the lumbar vertebrae (the lower back) flat to the ground. One the even numbers, return to the relaxed position.

The movement of the *fifth hinge*, the thoracic vertebrae (upper back), is done by lifting the head and shoulders off the ground while the arms are stretched out towards the knees (without actually trying to touch them) in order to roll the thoracic vertebrae forwards.

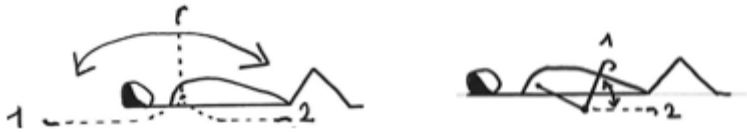
The movement of the *sixth hinge*, the cervical vertebrae (neck) requires lifting just the head off the ground and back down again. Some people can't manage to lift the head easily, and they could tuck their chin into their neck so as to be able to more easily lift up their head very briefly. For this, the call needs to be modified to a different rhythm:

"Sixth hinge: one-two, three-four, five-six, seven-and-eight", with "two" following immediately after "one" and then a short pause before continuing with "three-four", a short pause, "five-six", a short pause, "seven-and-eight".

- Moving the upper limbs

For moving the *seventh hinge*, the shoulder, lift a stretched arm up towards the ceiling and continue over to touch the ground on the odd numbers, then move it back on the even numbers. The call is "seventh hinge: one, two, three, and four" (to change arms) "five, six, seven, and eight".

For moving the *eighth hinge*, the elbow, lift just the forearm while keeping the elbow on the ground. The call is the same.



7th hinge 8th hinge

For moving the *ninth hinge*, the wrist, lift the hand, with fingers bent, while keeping the wrist firmly on the ground. The palm of the hand stays facing the ground.

For moving the *tenth hinge*, the base of the fingers, close the fingers into a fist without touching the wrist, then open the fingers out to lie along the ground again. You can imagine you're digging sand with your fingers.

For a child, this work on a mat is an excellent exercise in thinking about their body from the inside and analysing the working of the joints. It's pure analytical gymnastics where no cheating or compensating is allowed.

The full detail of this exercise can generally only be taught to adult groups, as the changing rhythms it requires can be difficult to master.

For children under seven, the study and exercise can be limited to the parts of the body and the first three hinges. For the over sevens, all ten hinges can be included at least for locating the joints.

9th hinge

10th hinge

6. Developing awareness of your muscular system

Now that we've understood our body mass, and examined its skeleton and joints, a detailed examination of the way the muscles work will strengthen self-awareness. Understanding how our muscles contract and then relax enables us to understand the muscular system.

Cécile proposed a variety of approaches, because it is much less obvious how the musculature works in the torso than it is in the limbs. She considered a good understanding of this to be vital to improve dynamic bearing, standing and sitting, since good bearing is a lifelong necessity.

Here is a range of exercises:

1) Muscle stimulation: find out which part is in action, where things are "heating up".

Start by finding a position lying on your back (dorsal decubitus), with knees bent, and feel how the spinal column presses and lifts from the ground as you move your feet forwards and backwards. Find a comfortable distance for the feet that allows a restful position. Then move the feet apart so that the ankle joints, knee joints and hips are all aligned.

- press down the soles of the feet, then relax (5 repetitions).
- with knees held firm, lift each leg, then relax (5 repetitions).
- holding each leg out, straighten the kneecap, then relax (5 repetitions).
- delicate movement of the torso to feel different muscle groups working (5 repetitions each):

- Press the shoulders to the ground, then relax.
- Press the arms to the ground, then relax.
- Press the forearms to the ground, then relax.
- Press the backs of the hands to the ground, then relax.
- Push the back of the neck into the mat, then relax.

Each exercise should be done five times, being careful to only contract the specified muscle groups then relax them in order to explore how they work. It will often be the relaxing of the muscles which enables the affected muscles to be felt and perhaps named. Younger participants can watch carefully and touch where they see the muscles move.

2) To feel the gluteal muscles: there are two positions to explore this.

- flat on your tummy to see how your buttocks feel. The forehead can rest on the backs of the hands one on top of the other for more comfort.
  Move the heels apart, then bring them together.
  Tighten one buttock, then the other, then both together.
  If the participant cannot feel the contraction in their gluteal muscles, they can try the following exercise: bend one leg and lift the knee up one centimetre several times while holding a hand on the buttock.

- sit on a bench without putting weight on your feet: these should be crossed on the ground, with the legs partially bent.
  a. Tighten the buttocks, then relax.
  b. Contract and relax them in time: walking pace, at a trot, at a gallop.
  c. Tighten one buttock and then the other: notice how the contraction of the gluteal muscles causes the torso to lean one way and then the other.

3) General muscle tone : in a standing position.

- With feet apart at the width of the pelvis, and knees slightly turned outwards, press the soles of the feet fully down: your toes should be free to move.
- Narrow the hips so the top of the thighbone fits snugly in place, and bring the heels gently together. This will slide the pelvic floor under the spinal column, as if you're "tucking in" your bottom, even if you only partially manage it.
- Straighten your back and push out your chest, to "stand proud". A description for women: fasten your bra!

- Do a general contraction of muscles, starting with the feet and working up through the calves, the thighs, the stomach, the buttocks, and the back (while keeping the arms loose). Notice the effect on the body this produces.
- Finish with a general relaxation of the muscles working down from back to feet and notice the effect on the body this produces.

Now you can discuss with the participants the role of the muscular system and the importance of standing tall.

With children, you can just focus on helping them observe the contraction and relaxation of the muscles.

Wrestling game:

Working in pairs for recreational combat: push each other, face-to-face, with hands on each other's shoulders, making sure you each have one arm above and one arm below the other person's arm (this works best if you're both about the same height). This stamina-based wrestling game can also be done back-to-back and side-by-side.

Working singly with an adult: the child has to push the adult.

a. stay still: they will succeed in pushing you back.
b. put up resistance: they will struggle to push you back.
c. push forward: they will find themselves being pushed back.
d. then get them to do the same three things to you while you push them.

To observe relaxation, we can use the 'ragdoll' game: take the arm of someone lying on a mat, and get them to go completely limp. Try the same with the other arm, then one leg, then the other leg. It can sometimes be difficult to relax all the muscles. For children who are a bit "hyper", this can enable them to learn to relax, and for adults, this can make them aware of unnecessary muscle tension which is wasting energy.

During the working sessions, participants should "stand up straight": an ordinary or flabby stance is not allowed.

This work on the muscle tone is not just for children but applies equally to adults. Teachers should set an example by applying this discipline to themselves too.

We continue with one educational goal: that of helping people to be able to do things “differently” from what they normally do. Mastering hyperactivity goes hand in hand with discovering how to relax, without going so far as introducing relaxation exercises. Going extra slow is suggested as a way to make the change.

Experience has shown many times, as much for children as for adults, that it is not until after this first stage of developing self-awareness that it is possible to start productively teaching thinking experienced through body movement, which brings us to the second stage of this manual for the method and its technical vocabulary.

SECOND STAGE

THINKING EXPERIENCE THROUGH BODY MOVEMENT

A. From the mental thread to voluntary movement

In order to let children who have lost their train of thought get their feet back on the ground, Cécile Patin taught them to pull their thoughts down into their bodies. She devised ways to connect the child's mental thread to different body parts. For example, their feet: the child walks across the gym saying which foot is going down, "right" or "left" according to which foot is forward. This simple concentration exercise can be developed endlessly with more and more complex actions.

In physical education we talk about 'movement' rather than actions, and there are three types of movement: reflex movement is triggered directly from the spinal cord -- it is genetically programmed and does not require conscious thought to control it; **voluntary movement** requires a conscious decision to act; automatic movement no longer needs thinking about because it has been memorised.

The psychomotor learning exercises in the method are designed to train voluntary movement.

Motor action is a series of mental operations which allows movements to be made. There are three phases:

- perception of information via two types of sensory receptors: exteroceptive (sight, auditory, skin) and proprioceptive (muscles, tendons, joints, inner ear).
- decision to act: this is sent through nerves to select and initiate the movement.
- action: information arrives continuously to enable the muscles to carry out the motor action: there is always the opportunity to correct what you're in the process of doing. If the action that happens matches the intended action, it is recorded in the memory. If it isn't right, you try again. This is the cycle of learning by doing: "learning by making mistakes".

Cécile Patin had her own words to refer to these three phases: perceive, conceive, act. But the Cécile Patin method actually has five stages of training: **perceive, conceive, act, instruct, and check**.

When we learn to make a sequence of movements, for example, this is quite a different skill from asking someone else to do that sequence of movements in turn (instruct). Even when faced with a person or a group who are obedient and ready to act, the "instructor" needs to be clear, audible, and concise. This requires them to have put their thoughts into order. Then, being able to verify what the other person has done (check) requires a further skill, namely to be able put yourself in the other person's place in order to be sure that they have correctly followed the instructions and controlled their movements.

Cécile Patin would generally talk about *guided actions* rather than voluntary movements. We call them *psychomotor operations* when the action is guided by the brain. So, we can imagine being like a string puppet with:

- one mental thread connected to the foot: this is one operation.
- another thread connected to the hand which taps a tambourine: this is a second operation.
- a spoken accompaniment coordinated with the actions: this is a third operation.

Thus, speaking along with an action while tapping a tambourine requires three psychomotor operations.

The Reverend Father Philippe-Alexandre Rey-Herme (1914-2005) was a theologian, educational psychologist, and professor at the Catholic University of Paris. In 1969, he wrote that **"*this close link between body action and mental action* *is one of the most productive ideas in contemporary educational psychology*". Cécile met him several times at training sessions for holiday camp leaders, and she sent him her first text.

In order to teach psychomotor skill, we need to develop the ability to tackle a motor problem with greater and greater accuracy, economy, and efficacy. To accomplish this, an exercise will first present a problem to be tackled on its own, which Cécile Patin called "plain thinking". Then we can increase the complexity of the motor task either by performing multiple actions at the same time or by performing the action for a period or repeating it a number of times. Cécile Patin called these "concurrent thinking" and "sustained thinking". Her classification of the principal types of thinking is set out in detail below.

The exercises should be selected taking into account the age of the participants, with suitable and gradually increasing amounts. Mistakes that arise from lapses of concentration can lead to a loss of discipline: when that happens to a child, we can say to them "You have lost your balloon… you have let go of your thread. Hold on to it!". Then we can watch children imitate the action of holding on to an imaginary mental thread and using it to draw their thoughts back into their heads.

1. PSYCHOMOTOR OPERATIONS

Dominant/Non-dominant thinking

Educational gymnastics can help develop functional balance in order to avoid disorders that arise in musculature from the dominance of one side. It is important to encourage the non-dominant side, which can be markedly weaker in some people, so as to be able to operate just as well with each side.

1. Galloping: done on the spot by jumping upwards. Do five gallops on the spot starting with the natural foot, or *dominant leg*. Do the same thing with the other foot, or *non-dominant leg*. To help coordinate the exercise: say "*clip*" when putting down the foot that was lifted first, and "*clop*" when putting down the other foot. Take care to match the sounds to the movement.

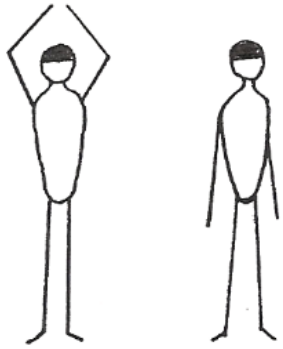
2. Leaping: moving along by jumping forwards. Do five leaps over five small mats (or five low objects, or five children lying on the ground…), each time landing on the same foot then putting the other foot down alongside it. Then do the same thing, changing the landing foot.

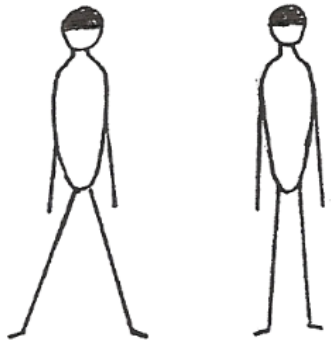
If this is found difficult, adjust the number: first do one successfully, then do three, and then five. Break it down in to stages and do it slowly: speed is not one of the success criteria here.

Plain thinking

This is a psychomotor operation encouraging a single mental thread.

1. marionette (articulated puppet): play at ‘Jumping Jack’ (star jump) but operate only the arms or operate only the legs.





2. skipping rope (jump rope) :

a. Operate only the arms: bring the rope to the front and to the back of your body. Swinging a skipping rope can be quite hard and might need some practice.
Learning points:

- Practise for swinging the rope forwards: hold the rope with both hands behind you and whip the ground with it hard without moving your feet.
- Practise for completing a full rotation: with a paper plate on each out-stretched hand, practise the rotating movement of the shoulders which will bring the rope in a smooth swing over your head. Try putting an object on each plate and ensure it doesn’t fall off during the movement. Break this down further by doing just one arm, then the other arm, then both together.
- Practise for swinging the rope the right way, neatly and powerfully: play a whipping game. Hold the rope in one hand (use a short rope or double it over). Whip the ground in front of you with the rope, swinging your arm round several times in succession (five times, if possible). Then do it with the other arm. Then the same thing with both arms together (using two ropes). If the ropes touch, that’s not the right motion. This exercise is a great way to let off steam and enables self-correction. Take care with the backlash from the ropes, which can spring back and hit you.

b. Operate only the feet :
Learning points: Hop, jump with both feet together, step over a stick on the ground, jump from one foot to the other on the spot.
These exercises lead naturally to the next type of thinking:

Concurrent thinking

This involves operating several actions at the same time.

Two concurrent operations

- Marionette: play at 'Jumping Jack' and operate both the arms and the legs.

- skipping rope: start moving the rope before jumping, and then do either: Jump over the rope, jumping from the non-dominant foot and landing on the dominant foot, moving forward each time the rope goes round. This way you can move right across the room with the skipping rope. Then do the same thing coming back, changing the landing foot. This exercise can actually be harder for people who can already skip quite well, because they may have learned a reflex jumping-on-the-spot action.

- An alternate foot jump, changing from one foot to the other each time the rope goes round. This is done on the spot, and is an exercise often used for athletic training.

Learning alternatives: jump with both feet together, hop, *etc*.

Three concurrent operations

- Marionette :
  a. Play at 'Jumping Jack', operating both the arms and the legs and counting out loud up to eight. You'll find that this way helps with both execution and coordination: making the sound helps you succeed.

  b. The same exercise but count in your head up to eight. This is often harder. To count in their head a child will need to use mental sounds or images, and you'll need to help them become aware of how they do this: what are you doing in your head as you count? Some "random checkpoints" can be helpful: interrupt the exercise to ask where they've got to in their counting.

For those who are struggling with this we can hold up fingers to help visualise the numbers. What's important here is to get them pointed in the right direction, to offer different solutions and let them choose a strategy which works for them and will get them, in the end, to a self-directed mental arithmetic. And always be ready to lower your sights if necessary.

- skipping rope : announce the jumps, same foot or alternating, as you do them.

When doing jumps over the rope, say “right and, right and, right and” or “left and, left and, left and” according to which foot you’re landing on: say “right” when putting the right foot forward, say “and” when bringing the left foot alongside it ready for the next jump, and vice versa.

For alternate foot jumps, say “right, left, right, left, …”

Four concurrent operations

- marionette: play ‘Jumping Jack’ with arms + legs + count in your head + say “buzz!” out loud. Speaking out loud makes it harder to keep count in your head: it may be useful to suggest mental sounds or images again as a way to help keep count.
- rocking backwards: for some children to manage to rock backwards and forwards successfully they may need to consider the following four operations, and separate them in order to then be able to do them concurrently:
    - tuck the head down,
    - protect the head with the arms above the ears,
    - breathe,
    - and roll back to touch the ground with the feet.

Sustained thinking

If someone starts an exercise well but loses control after repeating it a few times, they need to learn how to maintain the control for a specified period.

A key point is to get each student to set realistic expectations, to evaluate the level of difficulty, and then let them gradually increase their goals. Some children will enjoy setting each other challenges. The benchmark for success is completing five perfect repetitions. The use of “random checkpoints” is often useful when the counting is being done in the head.

Extended sustained thinking

We can work on thinking over a longer time by repeating the same exercise more times, whether it’s being counted out loud or in the head while saying “buzz!” For example:

- do 16 marionette ‘Jumping Jack’ star jumps rather than 8.
- do the “Standing-Sitting-Rocking-Sitting-Standing” sequence five times in a row.

- do the “Standing-Kneeling-Flat on your tummy-Kneeling-Standing” sequence five times in a row.

The physical complexity will need to be adjusted according to what the participants can manage, and so sometimes we might only be able to do arm sequences, for example.

When working with younger children, this activity can be adapted: since the aim is to master a given number of repetitions, we can get the younger children to do a set course five times.

- to begin with, the course can be marked out visually: a mat for doing the rocking backward, hoops for doing the frog jumps, a line on the ground for walking along, *etc*.
- then we can stop providing visual markers and get the children to do a sequence of actions (at least three), which means they will have to remember several instructions. For example: do the marionette ‘Jumping Jack’ star jumps four times, thumb your nose or make a face, then do two somersaults. You can get them to create their own courses or give each other instructions between themselves: children will love playing at teacher-and-pupil !

Alternating sustained thinking

Our preliminary work with body movement has addressed motor control alternating from one side to the other to achieve functional balance. We can now extend this to a mental operation which involves the participant alternating what they say, or how they say it. This requires a greater mental flexibility than just doing the same action repeatedly. Cécile Patin called this “leapfrog thinking”.

- buzzing marionette: Play ‘Jumping Jack’, counting “1” in your head and saying “*buzz!*”, then counting “2” out loud, and continue alternating up to ten, or higher. This results in counting in twos, so we should only hear the even numbers: “*buzz!* two, *buzz!* four, *buzz! etc.*”.

Then, to make sure the mind is really thinking about each number, switch over, so that you count “1” out loud, count “2” under your breath and say “*buzz!*”, *etc*. This time we should only hear the odd numbers: “one, *buzz!* three, *buzz!* five, *etc.*”.

- buzzing ladder-climb: lift one foot and count the first rung out loud, then lift the other foot and say “*buzz!*” and continue like this. Then repeat the other way around. Working on a ladder brings a vertical dimension to help vary the body experiences.

This exercise could also be done on all fours on the steps of a staircase.

Cécile Patin used the ladder-climb to help children struggling with counting. With some children not yet grasping how numbers in base ten work, a way to internalise the logical sequence from one up to ten was needed, so that they could at least master the first ten. On the ladder they need to climb exactly ten rungs, one by one, not one rung more and not one rung less, with alternate feet. Initially, they can then climb back down however they like, except for no jumping off (for safety reasons). It will take concentration to ensure this is done correctly: no missing out rungs, no putting two feet onto the same rung, no getting the wrong foot on the wrong rung, *etc*. Once the sequence up to ten can be done confidently, you can then start counting back down while descending from the top. What has been grasped when working on a ladder might not be grasped when working across a horizontal course, for example stepping over sticks. When a child no longer has the vertical image of the ladder in front of them, they may not be able to count in the same way across "open" space.

- walk along on floor markers (or an agility ladder): count out loud on one foot and buzz on the other foot, *etc*. Always repeat the other way around to do both even and off numbers.

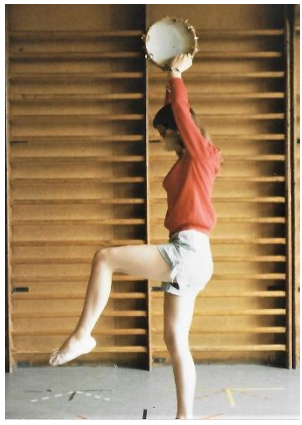
For those who are very confident with numbers, you can bring them out of their comfort zone by using instead the letters of the alphabet, or the days of the week, or the months of the year.

When working with younger children, these activities can be adapted: since the aim is to have them figure out for themselves what they need to say when, **never give the answer directly**. It's the process of working it out that is most useful.

- walk, while saying "left" and "right" on the appropriate feet. Get them to say "*buzz!*" on the left foot and speak on the right foot. We should hear "*buzz!* right, *buzz!* right, …". Then repeat the other way around, so that we should hear "left, *buzz!* left, *buzz!* …".
- bunny hops: say "flip" when putting the hands down and say "flop" when bringing the feet up to them. Then say "flip" with the hands but "*buzz!*" with the feet (we should hear "flip-*buzz!* flip-*buzz!*"), and repeat the other way around (we should hear "*buzz!*-flop, *buzz!*-flop").
- marionette 'Jumping Jack' while saying "Hoop-la": say "Hoop-*buzz!*", then repeat the other way around: "*buzz!*-la".

When all these exercises have been done, and the thinking they lead to has been examined, we can further intensify the work by requiring combinations of complex actions with verbalisations linked to them.

Cécile Patin suggested a “balancing polka step”, which involves thinking with three concurrent operations combined with alternating thinking. The challenge comes from having several linked movements: one polka step forwards, a hop upwards on one foot while opening the arms wide, all combined with a controlled balance on one leg and counting. This used moves that were commonly taught at the time. Exercises using modern dance, Zumba or hip-hop will be more current today. Country dancing, with changes of direction, simple steps, clapping, and jumping, also provides many possibilities.



These thinking exercises, from the simplest to the most complex, are helpful for *children with high intellectual potential (HIP)*. These can present idiosyncrasies in their attentive skills, even when they can be very focused and have good mental processing, because their thoughts can spread out like a tree, which can hinder sequential and organised thought. Many HIP children will be able to concentrate better on complex tasks than on simple ones. “*The child would often be more at ease and effective when the task was demanding and had multiple and complex requirements*”, wrote the neuropsychologist Magali Feige.

2. LOCATING ONESELF IN SPACE

It’s important to locate the “front” and “back” of your own personal space in order to be able to visualise the turnaround, that is understanding the front and back of another person. Body movement has already enabled locating the front and the back of a body by naming the different parts; for example, in front of the neck is the throat while behind is the nape of the neck.

Now we can expand this visualisation to the surrounding space.

Exploring the visual field and introducing the forward-facing boundary

- look ahead and hold out your arms in front of you. While fixing your eyes on one particular point, wiggle your fingers: you will see them moving, even if you're not looking directly at them.
- open your arms out while continuing to wiggle your fingers and continuing to see them moving, still without looking directly at them, until they eventually disappear from view.
- bring your arms slowly forwards again and stop as soon as you can see your wiggling fingers once more.

This limit to the extent of your visual field forms a boundary separating front from back. We can represent it by drawing a straight chalk line on the ground, matching the final position of the arms. This horizontal line is called the "forward-facing boundary" (sometimes called the frontal plane).

Get participants to express this fundamental spatial division in words: *"I am showing where my forward-facing boundary is. I can see what's in front of it, but I cannot see behind it."*

By experiencing the concrete existence of this line with our feet we can learn to locate the front and the rear: take two steps forward or two steps backward from the boundary line.

Some children will not grasp this basic spatial exploration so easily. The following game can help them to make use of their forward-facing boundary.

<u>The wolf game, with shepherd and sheep</u>

This is played by a small group of 5 to 7 children in order to reduce the risk of falls.

- One participant is the wolf. The wolf starts off facing the other children who are in single file, each holding the child in front by the waist: the child at the front is the shepherd, and their goal is to protect the sheep which is all the children behind them. The child at the back of the line is the little lamb.
- The goal of wolf is to catch the little lamb. The shepherd tries to prevent the wolf from getting to the lamb by making an impassable barrier with their arms stretched out wide. If the wolf goes around this barrier, the shepherd can turn on the spot to face the wolf, and the line of sheep

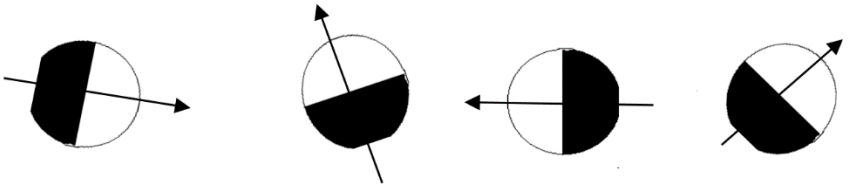
behind follows the movements of the shepherd in order to keep in the shelter of the shepherd's protective barrier.

Repeat the game so that each child can take a turn at each of the roles: the child who was the wolf becomes the little lamb, the shepherd becomes the wolf, the little lamb becomes a sheep, and the first sheep becomes the shepherd, *etc*.

This game makes the forward-facing boundary into a tangible barrier which can help children who are struggling with the concept.

Drawing the forward-facing boundary

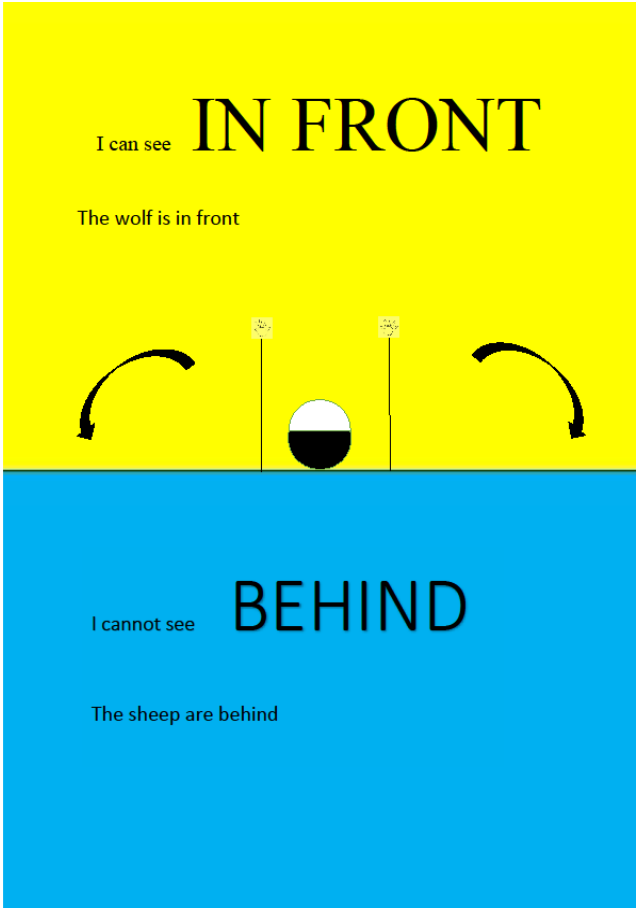
We use the following convention to show on paper the direction that a head is facing when seen from above: a circle is half-coloured, representing the hair. The non-coloured part represents the face. For the youngest children, you'll need to mark where the nose is before adding the arrow which shows the direction the head is facing as seen here:



Cécile Patin developed a particular scheme to represent the forward-facing boundary on paper to ensure that the area in front does not get treated preferentially to the area behind or vice versa.

1. Fold a sheet of paper in half to find the centre line, then unfold it again and draw a line along the fold: this represents the forward-facing boundary. At the centre of this line add a head seen from above.
2. Identify the area in front and the area behind.
3. Colour the area in front with a light colour (because we can see in front) and write “IN FRONT” there.
4. Colour the area behind with a dark colour (because we can’t see behind) and write “BEHIND” there. Make sure that the colours cover the whole of the half-sheet, because the areas extend without limit.

A useful option for younger children: after playing the wolf game, get them to draw the wolf in the area in front and sheep in the area behind.



An example of a child struggling with this during a holiday workshop session:

While playing the wolf game, one child had trouble being the shepherd: instead of turning to face the wolf, he would turn his back on the wolf, leaving the sheep unprotected. The same child would often get things the wrong way around, both in the exercises and putting them into words and when doing written work: when doing the torso, the head, and the limbs, he had glued the torso onto the page upside down, with the neck pointing downwards; he would often draw letters and numbers backwards.

The first time he tried to draw the forward-facing barrier, this child was being helped to do the folding and drawing: he didn't know how to fold the paper in half, and he didn't know how to handle the ruler to draw a straight line. Once he had been told to draw on the head and arms as described above, this child couldn't understand the scheme at all. We took a photograph of him from above, with his arms spread out, to help him locate the nose and hair as seen in the following diagram:

But the child put the "IN FRONT" on the left and "BEHIND" on the right of the head.

It was only after he himself took a photograph of someone else from above, as seen here, that he started to grasp it.

However, he still had difficult identifying the front and back sides of his body, and we had to get him to touch his tummy and then his back.

For this school-age child, in his first year at primary school, this discovery took a long time, but he did succeed eventually in correctly locating the front and back areas. It was by now April, so this was an important step to

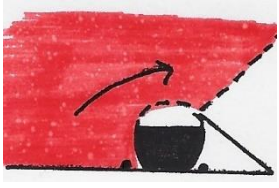
enable him to complete his end-of-year tests and be ready to move on to the next year of schooling.

Learning how to look

For older children, say around 8 or 9 years old, we can refine the discovery of the visual field for each eye in order to learn and feel the differences between looking, seeing, and spotting.

- Stand up, cover your right eye with your right hand, and hold out your left arm sideways right at the limit of what you can see: that's one limit of what you can spot.
- Now bring that arm slowly forwards and round to find the other limit of what you can see: this will be some way past the central axis. If you try to look beyond that limit, you'll see that it's your nose that stops you seeing any further round: this is the other limit of what you can spot with this eye.
- Draw on a board the first diagram below, and colour in the area of the visual field of the left eye in red.

Sight from the left eye

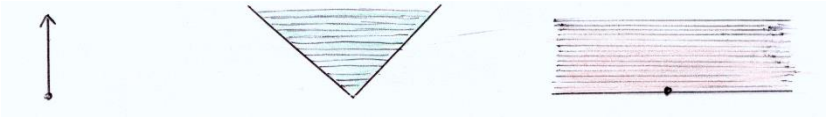


- Repeat the experience with the right eye, and on a second diagram colour in the area of the visual field of the right eye in blue.

Sight from the right eye

– Copy out the two coloured areas on a third diagram, to show the visual field of both eyes.

→ **Looking** at something is like driving an arrow into a target. I fix my eyes on a particular detail, or a point, or a letter.
→ **Seeing** something corresponds to the area where both eyes are active at the same time: it's the area between the two slanting lines, the part where the red and blue mix to make purple.
→ **Spotting** something corresponds to the side areas which are just a single colour, either red or blue.



What I am looking at What I can see What I can spot

Body experience: look at a specific point, then without letting your eyes move say what you can see and what you can spot.

Example: I am **looking** at your nose, and I can **see** you and also the chair you're sitting on and the gym mat behind you. I can **spot** the entrance door to my right and a window to my left.

When copying a text, practise looking before writing: fix your eyes on a word on the board (or a letter) and look at it carefully, and then copy it in your exercise book.

Here, there, over there

We notice that some people only look at what is close by, or only at what is far away from them. In the same way, some people only see very small things, while others only very large things.

To sharpen how we look at things, we can do another exercise of locating objects. Get participants to identify a small object located near them, and then, without moving around, to identify another object further away from them, and finally a last object that's a long way away.

Examples:
My hands are resting **here** on the table. **There,** on the other side of the table, there are two chairs. I put my shoes down **over there** near the entrance to the gym.

Or : **Here** I am in the classroom. **There,** through the window, I can see the path I came along. And **over there**, across the road, I can see the bus stop.

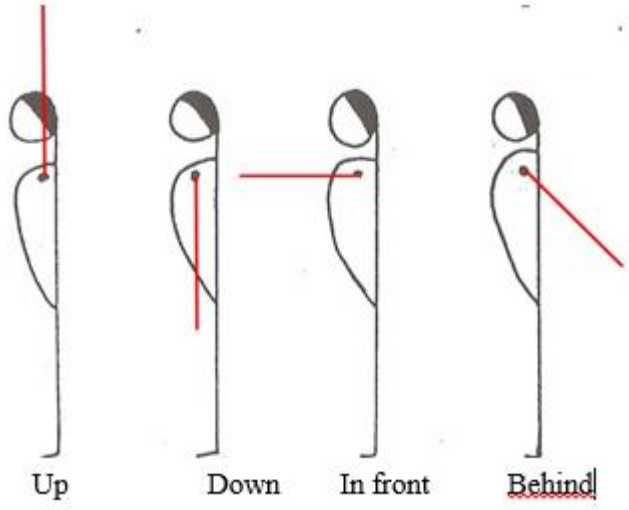
Spatial corridor and body frame

Cécile Patin found that she needed to help some children by getting them to locate a vertical line, when they were making mistakes with written letters: locate a vertical line (straight up and down) and then add a loop to the right or to the left of this line. To experience this with the body, she had them explore their dimensions so that they could understand the region they occupied in space.

Body experience:
- get the children to lift their arms in four directions: up, down, in front, and behind.
- emphasise the opposites.

Graphical representation

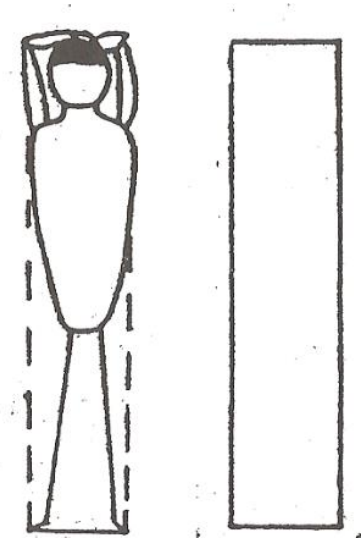
Draw a line for the arm onto pictures of people drawn from the side. Draw a sloping line for the arm "behind".



This way you can experience your dimensions by a movement of arms lifting them from down to up while brushing against the side of your body:

Keep your arms separated by the width of your shoulders: slowly raise your arms from down to up with the hands and fingers stretched out. Then slowly lower them in front, then down, and finally behind, all the time keeping the same width apart: imagine that you're cutting a slice of air and miming the invisible walls on each side of you. This movement will mark out the width of your torso: the hole made by your body lying down in the snow would be no wider than this space. This is your **spatial corridor**.

To illustrate the **body frame,** have the children raise their arms above their head, then fold their arms so that their hands come to the opposite elbows. The arms reaching upwards make a kind of wall up each side of the body while the forearms folded just above the head make a kind of ceiling, and the feet on the ground mark out the floor.



This shape can also be grasped by drawing it onto paper: after drawing the space marked out in this way by the *body*, it becomes a rectangular *frame*. The body inside this frame looks like a doll in a box just big enough to hold it.

Each person has their own distinct dimensions, and this can be shown in a frame:

– Trace the outline of each child in turn onto large sheets of paper and draw the body frame around it.
– Stick these dimension drawings to the wall, and the game is then to work out which is which. The body frame for adults, which is clearly different to that for the children, can help to start them locating which drawing is for which person.
– Compare the frames: there are larger ones, and smaller ones. Group them in order of size. For some children it will help to line up in height order to work out the different heights. A mirror can also help with seeing how the width of each person's dimensions is linked to the width of their shoulders.

Other body experiences :

– Compare shoulder widths.
– Measure heights with a stadiometer or vertical ruler.

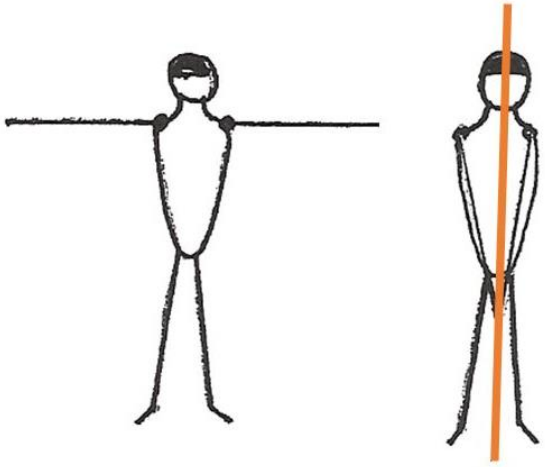
Locating the body axis and finding your centre

The investigation can continue by asking the children to move their arms **outside their spatial corridor** and not in any of the positions already seen, that is: not up, nor down, nor in front, nor behind (but without showing them the position to use).

Then we can ask them to bring their arms **inside the spatial corridor**, continuing until their hands meet. This limiting position is the ***centre*****.**

We can also use feet, so as not to be limited to just the upper limbs: turn the feet outwards, then turn them inwards (with heels apart, toes touching).

This limit found with hands and feet applies down the whole body. We can trace it from the top to the bottom, from head to feet and back up again. Following it in this way enables us to locate the *body axis*, which can be drawn on a figure to show two equal halves of the body on each side.



Locating this axis through the body now enables us to trace the shapes of letters that have a vertical line, such as that in the letters "*b*", "*d*", "*q*" and "*p*", to which a loop can be added as a tummy or a bottom, which can help a child work out which is which.

Locating your sides: first one side then the other

There is no point trying to get a child to learn their left and right if they don't yet know how to locate their centre and their sides. To learn this, we can experience it in our bodies through various activities.

Learning points:

- Walk, saying “one side” when putting one foot down and “the other side” when putting the other foot down.
- Stick your tongue out to one side, and then to the other side.
- Walk around a mat, or a chair, and put yourself: in front, behind, on one side, and on the other side.
- Lie down on your back on the ground, roll onto one side and say “one side”, roll over onto your tummy and say “flat on my front”, continue rolling over and say “the other side”, and roll once more and say “flat on my back”. It is important to synchronise the words and the actions.
- Standing upright, present the four sides of yourself, saying “the front”, “the back”, “one side” and “the other side”.
- In pairs, standing side by side: push each other sideways touching only at the shoulders and arms held firm. Then repeat on the other side.
- In threes: stand between two others, or on one side, or the other side, *etc*. Find all the possible combinations and say them out loud.
- In a group: dance and sing a song, such as “There was a little shepherdess, going to the market… three steps forward… three steps back… three steps to one side… and three steps to the other side”. Do the shepherdess dance in a circle, dancing round to the left for the three steps to one side and then to the right for the three steps to the other side. Then do the dance in single file, getting the leader to turn one way and the other to make a wavy path.

Exploring the centre and the sides using parts of the body

Imitation game:

Say “I have two eyes, one on each side” and open your arms wide. Say “I have one nose in the centre” and point forwards. Carry on in this way with ears, mouth, hands. For younger children, this exercise can stop after the sensory organs.
With older children the exploration can continue with other external parts: I have two breasts, one tummy button, one private part (vagina/penis), *etc*. If it’s appropriate this can lead to an explanation of the sexual organs and even talk about reproduction. This investigation is part of building self-knowledge and will be necessary when we start exploring units of time.

It is useful to work on these concepts in physical space in order to link them to visual work: form into a line side-by-side or in single file, and you’ll

never lose your place again following a row or column in a table of figures, something that crops up at school right from primary level.

Group game for collective working (Hebertism)

– The children line up in rows of 4 (or more), with the first 4 making a first row.
– The remaining children line up behind them in more rows, each child behind the child in front to make columns.

1. An exercise on the spot :

– Tell the first *row* to raise their hands then put them back down, for example, the second row to sit down, the third row to stick out their tongue, the next row to dance, *etc*.
– Then repeat the exercise by *column*: tell the first column to clap their hands, the second column to hop, the next column to make a funny face, *etc*.

2. An exercise moving around :

– A row leader is appointed: for example, whoever is at the right-hand end of each row.
– The first row moves forward doing bunny hops, for example. When they reach the end of the exercise space, the children stop and wait until everyone catches up and they are in a row again.
– The row leader turns to the right and leads the children of this first row in single file behind him to line up behind the other rows, everyone in the same columns they started in.
– While the first row is moving back to take its place behind the others, the second row can start its own movement forwards, and so on. This is what Hebertism calls collaborative activity.

German clap-dance (first stage)

This is a folk dance that is performed with a call: “thighs, clap, right; thighs, clap, left; thighs, clap, right and left; thighs clap both”. It may need to be introduced in stages to help children who are struggling with the separate elements. The first thing to learn is the order of the actions.

This first stage of learning can be done standing facing a wall, or it can be done sitting at a table if it needs to be repeated many times. The main difficulty is matching the actions to the words:

- Say “bottom” while slapping both hands against your thighs, say “front” while clapping your hands together in front of you, and say “forwards” while tapping twice on the wall (or on the table).

NB if there is confusion between “front” and “forwards”, it may help to first introduce the donkey-driving game (found further on).

It is often difficult for children to follow the rhythm, which will be vital when the dance is performed in full. It might be useful to imitate the actions with hands quiet in order to hear the rhythm clearly, listen to it, and imitate it: a deeper beat can signify slapping the thighs, a higher slap for clapping the hands, and the double beat on the wall.

Finally, lead the actions by calling out :

- Say “bottom, front, one hand” and tap just one hand on the wall.
- Say “bottom, front, other hand” and tap the other hand on the wall.
- Say “bottom, front, one and the other” and tap one hand then the other on the wall.
- Say “bottom, front, both hands” and tap the wall with both hands at the same time.

In this exercise, as a particular hand isn’t specified the child can use their preferred hand first.

3. LEFT AND RIGHT

Once there is some assurance with spatially locating different parts of the body and how they play a role in their surroundings, we should be able to tackle left and right with confidence. We have examined top-to-bottom with the parts of the body and locating the joints, and front-to-back with the forward-facing boundary, and finally the centre and sides with the body axis and parts of the body.

Location of the heart

Finding the location of some key body parts enables left and right to be identified in a way that can be applied to the surrounding space and eventually recognised in another person.

Cécile Patin used the beating of the heart as a bodily sensation to help distinguish left from right. Some varied vigorous exercises (star jumps, skipping rope, running) done continuously for a quite a long period of time should get someone thoroughly out of breath. Stop the activity suddenly and get them to lie on the ground with their body absolutely still: the power generating station has stopped, but the engine inside is still running. By putting hands flat on each side of the chest it should be possible to feel the beating of the heart. Once it's felt, the hand over the heart should be kept where it is while the other hand is put back down on the ground.

In this way we make it clear that ***the heart is on the left,*** and everything else on the same side of the body is also on the left. It follows that everything that is on the other side of the body is on the right. To confirm this lateral location of parts of the body we can say to raise our right hand, then touch our left ear, the left knee, the right eye, *etc*. Cécile Patin found that this way of experiencing the left and right by lying flat on the ground was the best way to learn it: it seems that the ground is important.

Anyone who still can't locate their left and right can repeat whatever exercises they wish to get thoroughly out of breath, then find the beating of their heart as before, as many times as needed. And if it's necessary, get them to say "my heart is on the left" five times over.

Graphical representation: draw round both hands on a piece of paper. Then put your hand onto your heart as before, and then onto the corresponding hand outline on the paper: draw a heart inside that outline. Cécile Patin called the left hand the **"*warm hand*".**

If there are other ways to reliably locate left and right, these can also be added to the representation: the dominant writing hand, a scar or birthmark, a mole, *etc*. We are often called on to locate left and right, and this can be particularly stressful for people with no strong dominant side (ambidextrous). Setting up these additional ways to locate left and right might seem trivial but can be very reassuring.

Left and right by internal organs

As well as being able to point out accurately all the external parts of the body we can see, it turns out to be very reassuring for people to also be able to name the internal parts that we can't see. The heart is the first internal organ whose function is explained to children, at least in a simple way: we can say that it is the engine that drives the vehicle of our body, or it is the pump that circulates our blood.

We can continue the study with other internal organs by talking about the way various bodily functions work: how do we eat, how do we breathe, *etc*. As there are many different ways of describing the working of the body, we can draw on various printed posters or books to explain our anatomy. This is an aspect of understanding our own bodies that is often overlooked. Then we can use our knowledge of the internal organs to continue working with left and right.

In a table, the children should put one or two ticks according to which organ each row refers to. Point out that for external parts of the body when there's only one of them it is always in the centre, while for internal organs this is not necessarily the case: the heart and the stomach are on our left while the liver and appendix are on our right. Since children often mention appendicitis, the appendix has been included here among the internal organs. The female genitals are included among the internal organs and the male genitals as external.

EXTERNAL	**LEFT**	**CENTRE**	**RIGHT**
I have … eyes			
… noze			
… ears			
… mouth			
… breasts			
… tummy button			
… hands			
… penis (boy)			
… feet			

INTERNAL			
I have … lungs			
… vagina (girl)			
… kidneys			
… liver			
… appendix			
… stomach			
… heart			

We can feel the heart beating on our left side

The body axis is the centre of our body,
and divides it into two sides: the RIGHT
and the LEFT

Left and right with the German clap-dance (second stage)

Once the left and right hands are confidently located, we can perform the clap dance, doing it without partners as before to keep it simpler for now. Note that the dance now stipulates starting with the right hand, which may not be everyone's dominant hand.

Lead the actions by calling out: "*thighs, clap, right hand; thighs, clap, left hand; thighs, clap, right-hand left-hand; thighs, clap, both-hands*". Those who need prompting can do this sitting with the paper in front of them with their hands outlined on it, while others can do it facing a wall.

In a larger group, the children can line up in single file and perform the clap dance using the back of the person in front of them. A child who is still struggling can be placed between two others: this enables him to copy the actions of the child in front and, at the same time, feel on his shoulders the actions of the child behind. This exercise should be repeated until it can be performed correctly, precisely, and fluently. The music gives a rhythm and a lightness to these body movements which are sometimes difficult to master. Of course, too fast a rhythm from the music can also make it harder for someone who is still needing to think about the sequence of actions: we might want to go at a "starting speed" while the actions are learned, and the goal is to get up to cruising speed.

Exercises to locate left and right when moving

Many people have difficulties with turning to right or left when required.

If you ask someone to do an about turn (180°) to the right or to the left, the results can often be a bit random. This next exercise needs the notions of a full turn and an about turn to be familiar.

To establish the notion of a full turn, get people to count the four walls of the room:

- Start by facing one wall: this is the starting point.
- Turn to the next wall, bow to it, and greet it by saying "1" out loud.
- Do the same with each wall, saying "2" and "3".
    - Find yourself facing the starting point again and say "4". Note that children will often count the starting wall, and so get it wrong: you don't count unless you've just turned.
    - Get them to make a full turn in this way, first turning in one direction, and then in the other direction.

Now explain what is meant by about turn: it is half of a full turn. To understand that there are two halves in a whole, explain how to share things between two people; for example, an apple, or some pens. We can also try sharing odd numbers of items to see whether we can always get both halves to be the same.

Now they should be able to work out for themselves that in order to do half a turn they will need to count two walls.

- Do an about turn by choosing the starting point and counting two walls (remember not to count the starting wall: you don't count unless you've just turned). Do this first turning in one direction, and then in the other direction.
- To ensure they don't get fixed with a particular orientation, get them to face a different wall as the starting point and then do an about turn again from there. Some children will lock on to a feature of the wall, like the one with a door in or the one with the window, and use that to successfully complete their about turn, so it's important to do this exercise starting from each of the walls.

Left and right with a robot game

In order to practise turning to right or left when required, Cécile Patin used the idea of a direction indicator (turn signal), and to help a child learn to turn in the direction they are told she separated working out the direction to turn from actually making the turn. She isolated the three first steps of the planning-checking method: hearing, thinking, doing. The exercise is done with a leader who gives instructions and a follower (robot) who carries them out.

The leader should stand a little way from the follower, and give them three instructions:

1. The leader should say, for example, "About turn to the left!".

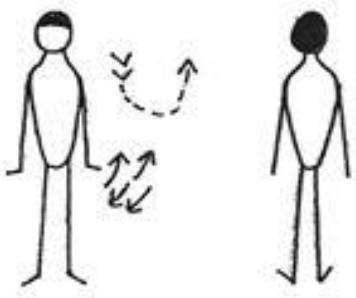
The follower should stay still and memorise the instruction: an about turn or a full turn, and to the left or to the right.

2. The leader says "Indicate!", without mentioning the side.
   The follower starts tapping with their left hand (if the turn is going to be to the left) on their left thigh. This is a movement of the 9th hinge (the wrist), with the arm and wrist kept firmly at the side of the body. If the

indicating is not being done on the correct side, the leader says "No… what did you hear ?". The follower *acknowledges receipt* (this is described in detail in "PUTTING THE METHOD INTO USE") by repeating out loud the instruction they were given and starts indicating again. If the indicating is now on the correct side, the leader can move on to the next step.

3. The leader says "Go !", and that's what starts the action of doing the turn.
   The follower turns on the spot, all the time keeping the indicating going. Sometimes people will start turning the opposite way from the hand they're tapping with: get them to turn their head towards the indicating action, which will lead the torso round and prime the whole body with the right direction to turn. Once the turn has been completed, the follower stops indicating.

It can take a long time playing the indicating game before it is fully mastered, with students getting the correct direction and type of turn (about turn or full turn). It will need to be repeated many times to get the actions clear. Once they can spot their own mistakes and correct them themselves, that's when they are clear: this is the main and most important goal. At this stage you could use agreement-report to build confidence: "This is what I'm going to do" and "This is what I did".



The final part of the planning-checking method is to take on the responsibility of a leader. In order to switch over to giving the instructions, it is vital to be confident of left and right, because when someone becomes the leader, they don't yet know how to put themselves mentally in the place of

the other person. They might need to come and stand beside the other student at the appropriate moment in order to check they are indicating correctly: this is all part of the learning process.

This is the time to make the link between the balloon and the mental thread: I can turn the balloon around in my head to imagine myself in the place of the other person rather than having to turn my body around. This introduces a new aspect: **decentration** (an understanding of how others see the world).

According to the level a child has reached it might be possible to add notions of quarter-turn and three-quarter-turn. The robot game then evolves into an educational exercise in working with fractions.

Applying left and right by moving around the room

To build confidence with left and right, we can use a game that involves moving around the room: the *donkey-driving game*. This involves moving in all four directions, with a driver and a donkey who check each other's actions.

The game is played in twos, one behind the other and holding each other's hands. The one in front plays the part of a donkey, while the one behind plays the part of the harness driver. The donkey is a clever donkey, because he checks all the actions: if the driver gets something wrong, the donkey refuses to move. The donkey's part is very important, because when the donkey is stubborn it forces the driver to think about what they are doing.

1. To start with, the driver has two instructions they can give: "*forwards*" and "*backwards*". The driver must also say "*stop!*" before giving a new instruction. This happens in three steps:
   - the instruction is announced by the driver: nobody moves yet.
   - the driver adds a physical movement: he pushes forward with his hands for "*forwards*" or pulls gently back for "*backwards*".
   - donkey and driver move off, and don't stop until the driver says "*stop!*" and moves his hands back down.

Marking these three separate steps enables the instructions to be taken in. This control of the timing slows down the words and actions and enables what is said to be checked before it is carried out: the instruction intended and then given by the driver is received by the *clever donkey* who

checks whether the movement that is given is the right one corresponding to the instruction that was given. The donkey mustn't move until he has felt the correct movement and must not anticipate. If the driver doesn't say "stop!", even when they've reached a wall, the clever donkey needs to attract the driver's attention while still continuing to walk on the spot until the "stop!" instruction is heard.

2. Then the game is extended to build confidence with left and right: the driver can now also say "*turn right*" or "*turn left*". This becomes very hard for some people, which is why it is vital to keep to the exact sequences: donkey and driver can set off in any of the four directions, but only from a stationary starting point. The goal is to practice the logical steps, so it is important to avoid the short-cuts of running one movement into another with much less control.

The left and right instructions happen in four steps:

- the instruction is announced by the driver: "turn left" or "turn right".
- the driver adds a physical movement: he lifts one arm of the donkey, but doesn't repeat the instruction.
  If the driver lifts the arm at the same time as announcing the instruction, the donkey keeps the arm firmly alongside his body. The driver needs to realise that a step has been missed out. The donkey does not respond to a movement, but only to an instruction followed by a movement.
- the driver gently pulls the arm in order to start donkey and driver turning on the spot.
  If the driver pushes the arm instead of pulling it, the donkey must refuse to move.
- to stop turning, the driver lowers the arm, still not saying anything (they don't say "stop!").
  If the driver doesn't lower the arm to stop turning, the donkey must continue to turn until the arm is lowered, even if the driver calls out "stop!".

Each student should first be the driver (the person who is doing the exercise) before taking a turn as the clever donkey who checks what is being said and done. The challenge for the donkey is to check both his own actions and what the driver is saying and doing: it requires full concentration.

3. Extensions :
   - set a target: complete five flawless manoeuvres to be awarded a donkey driving licence.
   - set a route for the driver: start at the entrance of the room, go around the chair, go up to the blackboard, take a step backwards, then head out of the room.
   - if the site allows for it, go out into the corridor, go up or down stairs… set off on an adventure!

Objects don't necessarily have their own sense of left and right

A lot of people's problems with orienting themselves stem from not grasping the following fact: things that move have their own sense of left and right which applies to their movement, but things that don't move don't have their own intrinsic left and right.

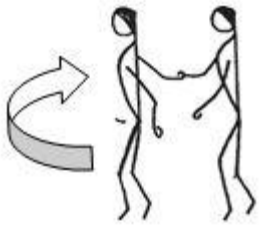
- The left bank of a river can be identified by looking at the direction in which the water is flowing.
- Traffic regulations set out the importance of left and right for vehicles moving.
- But the right-hand door of a wardrobe is the one that is opposite the right hand of the person standing in front of it.

Children might like to think of it this way: "*You are the master of right and left: it is up to you to impose your right and your left on things around you.*"

Recognising someone's right hand and left hand when you are face-to-face: the reversal of roles.

When we meet someone, we immediately need to take account of and understand their orientation: because we need to shake their hand. This involves what we call a rotation schema, an important step in abstract reasoning.

We can extend the donkey-driving game: at the point when a donkey-driver pair are holding hands, we can ask them both to let go with their left hand. The donkey then turns around to face the driver without letting go with their right hands: they will find themselves face to face, giving each other a handshake.



To understand how the right hands cross over when you are face to face, Cécile Patin used some role-playing games:

- One of you gets on one knee to propose, puts your left hand on the heart and holds out the right hand saying, “Give me your hand, and I will give you my heart”.
- Two people face to face salute each other in military style: right hand to right temple, left arm straight at the side of the body, and they say “Hail, captain!”. If one of them is fooled into carrying out the mirror action, and so salutes with their left hand, the leader can say “Clap them in irons!”.
- These games can be done multiple times, alternating the proposal and the military salute.

The important thing to note is that it is the right hand that gives the military salute and the right hand that does the handshake. Cécile Patin called the right hand the *formal hand*, and the left hand, which is near the heart, she called the *warm hand*.

German clap-dance (final stage) face to face

All the work on left and right, which will have needed numerous sessions and repeating exercises multiple times, culminates with the full German clap-dance. The logical study of the robot and the clever donkey now leads to the fun of rhythmic dance movements.

However, it is still important to be careful about getting the correct words to announce the correct hands which do the clapping.

Sequence :

1. With pairs turned to face each other, the clap-dance is done first with one person keeping both hands up motionless with the palms facing their partner, so that they can tap on them. Cécile Patin called these “buffer hands”, like on a railway line. The other person calls out “thighs, clap, right hand” and taps their right hand to the right hand of the one who is staying still. This can lead to a lot of mistakes: children remembering stages one and two can often get the wrong hands and may need to practise again going face to face to salute or propose marriage.
2. Each pair switches roles. Note that the one who is staying still must not move their hands forward to help the other person.
3. Finally, each pair calls and claps together for the German clap-dance.

In this way we arrive at the traditional German clap-dance: it's a story of a couple who are arguing, wagging a finger at each other, who then make up by turning the other cheek. The movements mimic the argument and the reconciliation. It is done once with clapping, then once with finger-wagging, and then comes the refrain (la-la-la) in which each pair dances round with arms linked.

The complete dance reflects a successful mastery of left and right expressed in a joyful way. We confirm the knowledge we've acquired with a little celebration. With a whole group, the dance can be great fun, and children will have a whale of a time with it, wanting to do it over and over, and you'll find them doing it again themselves during free play times.

Finding your centre

To continue locating yourself more firmly in space it can help to return to the notion of your centre. By analogy with the forward-facing boundary, the goal here is to find another boundary using the arms to separate the space on the right from the space on the left. We call this the *left-right boundary* (sometimes called the median or sagittal plane).

Cécile Patin used to use an agricultural scenario: on one side is a field of goats, and on the other side is a field of cabbages. We must stop the goats from getting over to eat the cabbages. Someone can play the part of a goat by going to one side of the student who will then try to stop them getting past while keeping their own orientation unchanged. The student should make sure that their pelvis and their shoulders both stay fixed and don't turn from side to side.

The student will easily manage to raise one arm in front of them, or both arms together, to stop the goat from passing in front: but the goat will then slip behind them! And if there is only an arm lifted up behind them, then it is the front that is left open for the goat to slip past. To make an effective barrier, the student will need to figure out how to have one arm raised in front and the other lifted up behind them, and this is not at all a natural posture. It might help to think of an arrow or spear that pierces your back and sticks out of your chest: this marks a boundary, the left-right boundary, which separates the space into two zones, one on the right and one on the left. The anatomical term "sagittal

plane" comes from the Latin word sagitta, an arrow, from which we also get the name of the constellation Sagittarius (the archer).

As before, get the students to make these two boundaries when facing in various different directions. While facing each wall in turn, they should show the forward-facing boundary and say what it separates (front from back) and then do the same with the left-right boundary (left from right).

The traffic policeman game:

A policeman stands in the middle of the room, and the rest of the group spreads out along all four walls: they will be the cars. When the policeman spreads out his arms to make the forward-facing boundary, the cars on each side can cross from one side to the other while those in front and behind him must stay where they are. When the policeman makes the left-right boundary, the cars in front and behind can come across while those on each side must stay where they are. Then the policeman should face a different direction and make the two boundaries again.

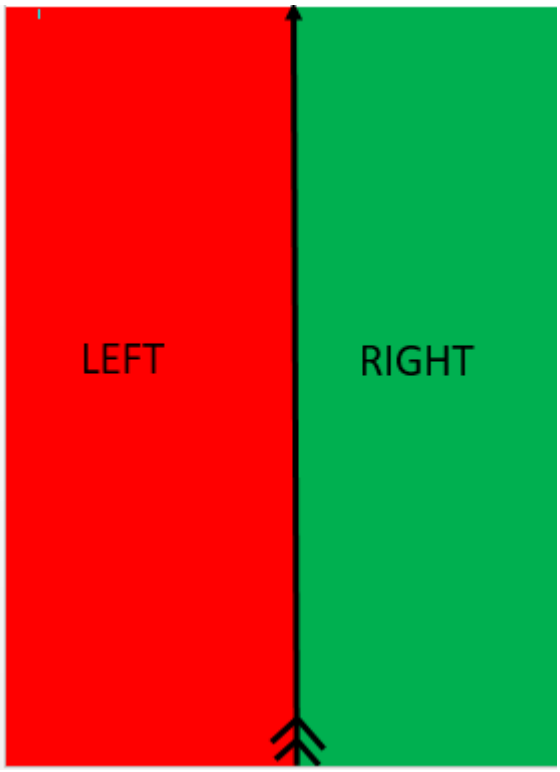
Drawing the left-right boundary:

- Fold a sheet of paper in half lengthwise (check for confusion between lengthwise and crosswise/widthwise).

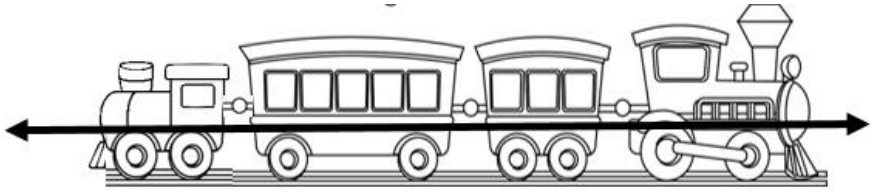
- Unfold the sheet again, and draw a line along the fold: this represents the left-right boundary. Make the line into an arrow by putting an arrowhead at the top and two feathers at the bottom. See the commentary below for specific problems that students may have at this point.

- Colour each side, using different colours than those which were used for the areas in front and behind when drawing the forward-facing boundary. It may be helpful to use red for the left (the side where the heart is) and green for the right (like red and green lights for port and starboard on ships). This colour scheme can then be carried over to other educational activities.

- Mark in large capital letters the LEFT zone and the RIGHT zone.



Commentary: this work brings together different features of the space represented by the sheet of paper: length and width, top and bottom. It is important to be able to locate the front and back of the arrow at the top and bottom of the sheet of paper, and this is something some students will find difficult. The automatic action might be to put a "hat" at both ends of the line. To help clarify the direction of the line and the placement of the "feathers", Cécile Patin would draw a train with an engine at both ends pointing in opposite directions. If both engines pull at the same time, the train will be torn apart! Knowing how to correctly orient the arrowhead and feathers indicates the proper orientation of one's thoughts.



The game of darts can also be useful, since it adds an action: throwing the dart in a particular direction.

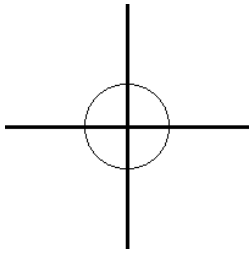
Exploring the centre of your space with a directional cross

All the preceding work has enabled us to locate ourselves in space more effectively: understanding the body frame, the space in front and behind, the centre and the sides, left and right. The next step is to combine these in the *four-zone game*. This game will help each participant to explore the centre of their personal space and to be confident in getting their bearings in various circumstances. As with each of these exercises, each participant should first of all "experience" the situations themselves, and can then develop the decentration in order to proceed to be the leader. Drawing the zones on paper also requires passing from 3D space to a 2D drawing.

Becoming confident with the four zones is an essential goal of a course of Thinking developed through body movement, in order to be able to apply this to educational goals.

Body experience:

1. Have them mark on the ground with chalk (or with sticky tape) the left-right boundary, and cross it with the forward-facing boundary: this should make the shape of a cross. Standing at the centre of the cross is like being at a crossroads where four roads meet, and we call the centre of the cross the "zero point". The cross marks out four zones relative to our bodies, and it is important to be able to name and identify those four zones. Get the participants to notice that there are two zones in front and two zones behind, and also there are two zones on the left and two zones on the right. You can think of the cross as being like cuts with a cake-knife that divide a large cake into four pieces.



2. Mark out one of the zones with the arms, keeping both arms at shoulder height. Straightaway we'll notice that the two zones in front can be marked out without much difficulty, with one arm reaching forwards and the other stretching out to one side. But the two zones behind need one arm to reach out backwards (without crossing the chest first) and

the other to one side. Get the participants to mark out each zone in turn, lowering their arms to their sides after marking each zone in order to resume the spatial analysis. This exercise can be quite difficult for some people, and you'll see them moving their arms around trying to find the right answer. It will sometimes be necessary to repeat the exercises of locating the forward-facing boundary and the left-right boundary in order to reinforce the four basic locations (front, back, left, right) which need to be combined. The pattern to follow is to say first whether the zone is in front or behind, and then to specify the side. This way we build up a vocabulary for the four zones: the front left zone, the front right zone, the back left zone, and the back right zone.

3. Once a participant is confident at marking the position of each zone with the arms from a stationary position at the centre, we can proceed to exploring the space by moving around it: they should step into a zone, name it, mark it out with their arms, and then return to the centre and say "zero point" before continuing with another zone. And to ensure that they are associating these zones with their body orientation, and not with the layout of the room, the exercise can be repeated but starting in a different orientation on the same cross.

4. Now point out that if someone is in one zone and they turn to face a different wall, the zone they are in changes its name. Which zone are you in now? Their reply might still be based on the original orientation, but it is important that they understand that they impose the notions of front and back, left and right, onto the space around them. Marking out the zone with their arms, from their own personal orientation, should enable them to correct their answer. Now from this zone we need to locate the three other zones again. And this exercise should be repeated so that all the possibilities are covered. All this repetition is not superfluous, because resolving difficulty with orientation is not at all obvious.

5. Now the exercise is extended by adding the principle of the robot game to the directional cross. A leader is now in charge, but the orientation is always relative to the follower who receives the instructions.

– "Move into the back left zone!". A correct movement should be confirmed with a "yes". When no confirmation comes from the leader, the follower should try to figure out their mistake and correct it until they get approval.
– "About turn to the left!". If they get this wrong, get them to acknowledge receipt by repeating out loud the instruction they were given. For this exercise it might not be necessary to require the "Indicate!" step.
– "Which zone are you in now ?" The leader should confirm a correct answer or say "no" and require the correction.
– "While staying in this zone, make a three-quarter turn to the right!"
– "Which zone are you in now ? "
– "Move into the … zone!", *etc*.

6. Each participant should progress from being the follower to being the leader giving the instructions, and then to verifying and validating what the follower does, which develops the decentration (the understanding of how others see the world). As in the robot game, the leader should know how to put themselves mentally in the place of the follower without needing to move.

Drawing the four zones

The importance of this drawing is to move from the three dimensions of the space we experience to the two dimensions of a drawing on the page. It's not at all straightforward to match up the points of reference. Where are the top and bottom of the page? Why is the zone at the top of the page called "in front"? It's all a question of the conventions we use when drawing geometrical representations on paper.

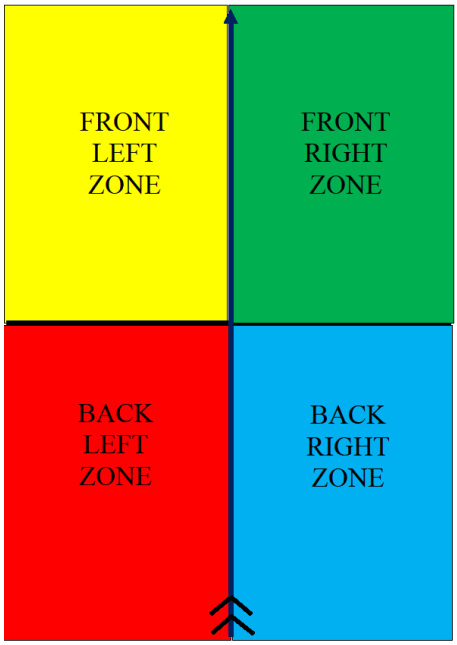
Fold a piece of paper in four, and then draw a cross along the lines of the folds. Put an arrowhead at the top to indicate the forward direction (this is helpful for those who turn the paper around while colouring it).

Add the name of each zone, and then colour them in, bearing in mind that we must:

- put just one colour in each zone.
- not mix the colours.
- choose the colours for each zone with reference to the colours we used when drawing the forward-facing boundary and the left-right boundary. For example, if we used yellow for in front and blue for behind when drawing the forward-facing boundary, and red for left and green for right when drawing the left-right boundary, then these are the four colours we should use here.

To find a solution for the colours, encourage the participants to do a rough sketch first. It is easy to fix the colours from the first drawing and then discover that it's not possible to apply the colours from the second drawing. It's an exercise in *breaking apart* the facts we're given and assembling them correctly. Once a solution is found, see if they can find the other solution: there are exactly two solutions that work, because basically the colour for the "in front" zone (*e.g.*, yellow) can either go into the front left zone or into the front right zone, and similarly for the other colours.

They might turn the paper around to make it easier while colouring in the different zones: this is where the arrowhead can help in reminding us which zone belongs where on the page.



Left and right for the direction of writing with a finger-keyboard game

The direction of reading and writing can be imagined as a timeline, which for English and many languages runs from left to right. So, writing your name involves starting with the first letter on the left and then writing each letter in turn to the right until the name is complete. Clearly it takes only a little time to write "it" and a lot more time to write "antidisestablishmentarianism", but we should also consider that the "i" of "it" comes before the "t", and the "t" is after the "i". This links the notions of space and time.

To experience left and right with the direction of reading and writing, Cécile Patin used fingers. She called this body movement of the fingers *piano-typing*, and it consists of typing with the fingers on a table as if on the keyboard of an imaginary piano aligned with the forward-facing boundary. Piano-typing requires accurate technique. Leave an open space between the hands the width of the shoulders: this represents the spatial corridor. The hands and forearms should not rest on the table but be held slightly above. The fingers type while keeping the hands the same distance apart: they shouldn't spread apart nor move closer together. Lower and raise each finger separately.

This exercise enables us to train people to draw out their mental thread along the lateral line, in patterns which Cécile Patin called **mental tracks.** During this movement we practise three of them: moving apart, bringing back together and sideways motion.

The first step we'll look at, which we call elastic movement, involves what we call in gymnastic terms **abduction,** or moving apart, and conversely **adduction**, moving back together. Physically this is the easier movement because it uses a simple contrary motion: both hands do the same thing at the same time, making for easier coordination.

The second step, which we call chasing movement, involves **parallel motion**. This requires a conscious move to separate what the two hands are doing.

Mastering an awareness of elastic movement has positive benefits:
- in maths, for placing the decimal point in numbers, and understanding how negative numbers go.
- in history, for grasping chronology before and after significant events, *e.g.*, BC/AD.

Mastering the chasing movement also has positive benefits:
- in cursive handwriting, for fixing which parts of letters come before and which come after, such as correctly placing the bowl before or after the stem in the minuscule letters d-b-q-p.
- in grammar to get subject-verb-object in the right order, and getting the gender agreement right for past participles in French.

The finger-keyboard game can also be used for learning the alphabet.

a) Elastic movement

The fingers are numbered 1 to 5, with 1 being the thumb and 5 being the little finger.

Start piano-typing on the table with the fingers of one hand, then with the other hand, and finally with both hands together, all the time calling the numbers out loud.

- first going from 1 up to 5, which corresponds to an **abduction,** moving apart, away from the body axis.

- then conversely going from 5 down to 1, which corresponds to an **adduction,** moving back together, toward the body axis.

This movement is symmetrical: the same fingers and the same muscles are working at the same time on each hand. We call this “elastic movement” after the mental track which moves apart as you stretch a piece of elastic and then moves back together when you release it: outward (←—→) and return (→←).

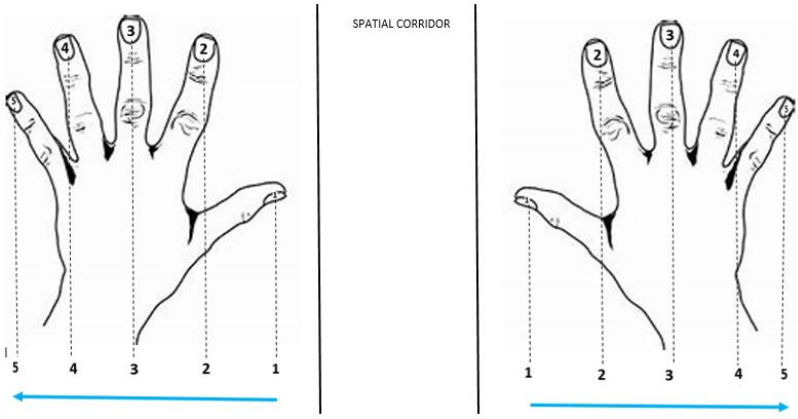
Practical exercise :

The child should draw the outline of their hands onto a double sheet of graph paper, taking care to have the fingers straight and upright, and also to leave an open space between their two hands to represent the spatial corridor.

The fingers are numbered 1 to 5, with 1 being the thumb and 5 being the little finger.

- Write the numbers of each finger onto the fingernails in the drawing.
- Draw a dotted line down from each fingernail and write the numbers again in a line along the bottom.
- Start piano-typing with the fingers of one hand from 1 up to 5, calling the numbers out loud.
- Start piano-typing in the same way with the other hand.
- Now use both hands together and continue to call the numbers out loud.
- Notice how this finger-keyboard game moves apart, away from the body axis.
- Draw arrows at the bottom of the sheet in this outward direction.

This drawing forms a representation of the first mental track, which is the abduction. Being able to correctly orient the arrows at the bottom demonstrates whether the thoughts are aligned in the right direction.



This mental track can be inverted to form the adduction:

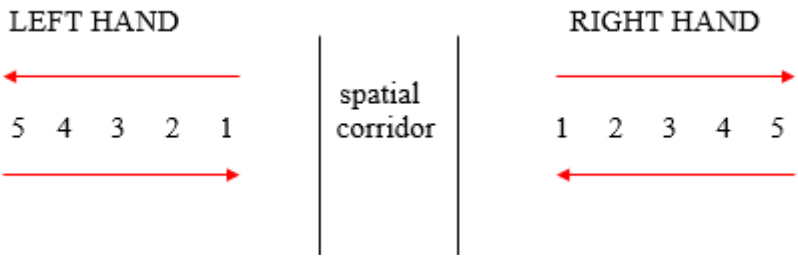
- Start piano-typing with the fingers of each hand from 5 down to 1.
- Now use both hands together.
- Notice how this finger-keyboard game moves back together, towards the body axis.
- Draw arrows for this track at the bottom of the sheet (or sketch them on the table).

The mental tracks can be tackled in different ways, the important thing being to bring out the elements of understanding.

It is important to check that their hands do not spread apart or move closer together: they must stay at the same place, allowing the fingers to piano-type lightly. Each finger should lower to touch the table then rise back up.

Abduction	Adduction
It's an "outward journey"	It's the "return journey"
It's forward motion	It's reverse motion
It goes from 1 up to 5	It goes from 5 down to 1
It goes from inside to outside	It goes from outside to inside

A representation of the two mental tracks of elastic movement:



Additional practice: set different tasks

- Do the OUTWARD motion with the right hand.
- Do the RETURN motion with the left hand.
- Do the OUTWARD motion with both hands.
- Sketch the arrows on the table.

Some younger children may not yet be up to using the finger-keyboard game, but it is essential to find a way to explore the notion of outward-return with them. The key point is to train the ability to think in one direction and then in the other. There are various words that can be used for this: outward and return, forwards and reverse, start-to-finish and finish-to-start. The main basis of the work is to have some course to complete or route to follow, and use it as a fundamental exercise in mental agility. For the very youngest children, body movement consists in enabling them to be turned upside down, safely and gently of course, like going down a slide, feet first and then head first, *etc*.

b) Chasing movement

This movement is asymmetrical: it is not the same fingers, and so not the same muscles, which are working at the same time on each hand. We call this "chasing movement": outward (→→) and return (←←). It requires careful work to get everything in the right place.

Learning points: with both hands placed flat on the table,

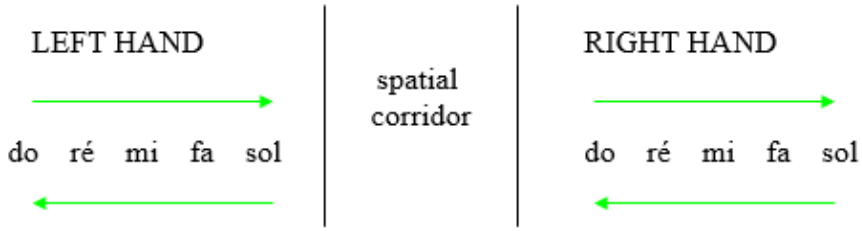
- lift the finger on the left hand which is furthest to the left, then place it back down,
- lift the finger on the right hand which is furthest to the right, then place it back down,
- now lift the finger on each hand which is furthest to the left…
- then the furthest to the right…

Now begin piano-typing with the fingers of each hand, starting with the finger furthest to the left and continuing to the right, not saying anything out loud at this stage. Then begin piano-typing with both hands together, which will be very difficult for some (but easier for those who have had piano lessons): it is a tricky physical task to master.

Once the action can be successfully done, we can add a vocalisation using the first five notes of the scale: do-re-mi-fa-so.

- Do the **outward parallel motion** first, towards the right (or forward), from *do* up to *so*.
- Then do the **return parallel motion**, towards the left (or reverse), from *so* down to *do*.

A representation of the two mental tracks of chasing movement:



Additional practice: set different tasks to provoke analytical thinking.

- Do the OUTWARD motion of the elastic movement with the right hand.
- Do the RETURN motion of the chasing movement with the left hand.
- Do the OUTWARD motion of the chasing movement with both hands…

Some real difficulties can hamper children's grasping these exercises relating to the direction of reading and writing. One primary school girl was not coping with the difference between the exercises using numbers (elastic movement) and the exercises using notes (chasing movement), because she kept trying to make the thumb the starting point for each motion. She'd become fixated on the physical sensations from her right hand, and was not managing to think of changing the starting finger.

Cécile Patin had the idea of using the child's name instead of the musical note names. She got her to piano-type her own name, one syllable at a time, thus: NI-CO-LA-THOM-SON. On the right hand, the NI was on her thumb, the CO on her index finger, *etc*.

So, when it came to piano-typing with the left hand, if she started with her thumb instead of the little finger while saying NI, this caused it all to come out backwards. In order to draw her attention to it, Cécile Patin had her write it out: SON-THOM-LA-CO-NI.

She thought that finding her own name coming out backwards would enable the child to think about this, and it did, but only after repeating the exercise another twenty-or-so times. A neutral "no" signalled that she needed to start again, until she became puzzled by always writing her name backwards and made the happy discovery that the little finger needed to be the starting point on the left hand for the chasing movement.

Practical exercises with the "chasing movement"

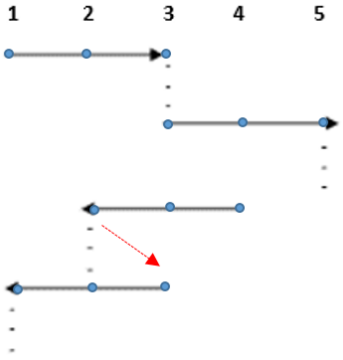
Mastering the body movement of the finger-keyboard game enables further exercises to be done which will link up with symbolic meaning. One way to give add symbolic representation could be to represent the mental tracks with arrows, which can show the direction in which the mental thread should be pulled. A more advanced symbolic representation can indicate the exact sequence of fingers, and starts to be like the musical notation we use to show notes on a stave.

Starting with a number-based pattern to be played with the right hand, this score can be transposed for the left hand so that it plays in the same direction as the right hand, so that in the end both hands can play using musical notes. If there is a keyboard in easy reach, the child can play a little tune that can be easily recognised: Mary had a little lamb, for example. In this way it is fun to get to the point where they can sing while piano-typing with their fingers. They might even become a composer and performer!

a) Get them to piano-type with the right hand:

1 2 3 3 3 3
3 4 5 5 5 5
4 3 2 2 2 2
3 2 1 1 1 1

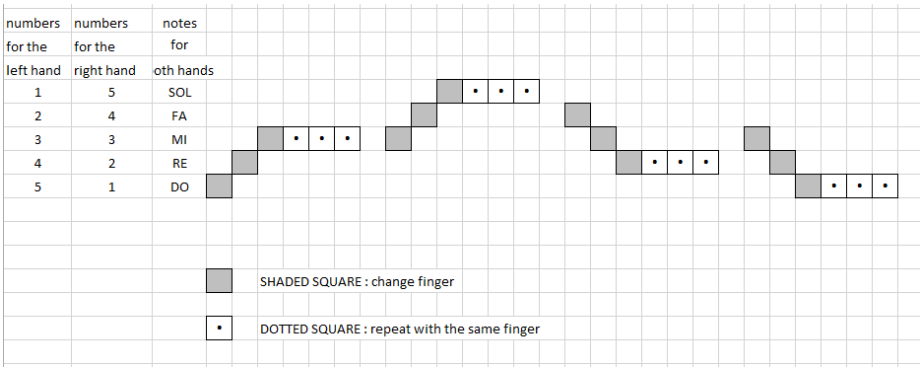
If the child is having trouble with this, it may help to make a graphical representation with arrows, using the squares on a piece of graph paper. The dots represent the repeated numbers. The first two lines are usually easy to do. The difficulty will come with the third line, which needs to start with the fourth finger, and the last line, as both of these move in the "reverse" direction.



b) Get them to find the numbers to play with the left hand, to produce the same pattern in the same direction. Don't give them the answer. What they're looking for is this:

5 4 3	3 3 3
3 2 1	1 1 1
2 3 4	4 4 4
3 4 5	5 5 5

c) If necessary, make a "staircase" chart, again using the squares on a piece of graph paper.



d) Get them to translate the numbers into notes to piano-type with both hands. At this stage, it often happens that they separately translate the number for each hand before noticing that they both produce the same result.

DO RE MI	MI MI MI
MI FA SO	SO SO SO
FA MI RE	RE RE RE
MI RE DO	DO DO DO

e) Have them sing along with it:

DO RE MI	Come to tea
MI FA SO	Say hello
FA MI RE	Now we play
MI RE DO	Home we go

Other songs can be used too (for example, Mary had a little lamb, Au clair de la lune …).

4. RHYTHM

As we have seen with the German clap-dance, rhythm can carry along actions, but it doesn't necessarily carry along thoughts. Rhythm features in many exercises in the form of spoken accompaniments to the actions. The spoken words voice the thinking that is going on and enable it to be verified, which is a principal goal of the work. It has already been stressed that the

actions and the words need to be done together so that psychomotor coordination is achieved, as in the marionette 'Jumping Jack' game, for example.

Rhythm encompasses the notions of sequence, following, duration, alternating, *etc*. There are many and varied exercises that can be done.
First of all, students need to pick out simple rhythms in ordinary movement: at a walking pace, at a trot, at a gallop. It is also often necessary to find appropriate spoken accompaniments for the exercises to be done. For example, saying "plop!" when doing frog jumps, saying "clip-clop" when galloping, and saying "tra-la-la" when doing polka steps. Recognising the three main speeds is key for going on to find others, and will enable many suitable combinations to be found.

When running group workshops, it is vital to develop listening skills by using numerous rhythmic exercises. This is less crucial when working individually with participants.

Silence

For a group, a tambourine can be used to call a halt to activities and prepare the silence in which the next task can be described. When the tambourine is shaken the metallic zills clink and rattle, and this should continue, stopping only once all the children have become motionless and silent. This can be achieved without using the voice and without striking the tambourine. Wind chimes can be used in the same way.

Silence removes all the intrusive noises from chattering or physical restlessness and enables attention to focus on the leader: distractions are avoided, and listening can take place.

Use moments of complete silence to listen to all the everyday sounds from nearby and further away: the ticking of a clock, the creaking of a door, cars passing on the road, a boat on the river, a train, a foot slipping, a whisper, distant conversation, a dog barking, an alarm sounding, the wind in the trees. This is a vital activity, even with an individual student. Just as we found for the visual field, there is a gradation in the auditory field: sounds we notice, sounds we hear, and sounds we listen to.

Learning how to listen through rhythm (without moving around)

Cécile Patin used a simple game which involved listening to a sequence of hits on a tambourine and recognising them and then imitating them. This can be very challenging for some people and, if they do not have an innate capacity to instantly repeat a series of hits, they will need to be helped to count and analyse the hits. The main goal is to develop the *ability to listen*. Young children often prioritise sight over sound: for example, if you say "put your hands up" but at the same time fold your arms, it is not uncommon to see children also fold their arms.

To get things started this game should begin with simple and short patterns: for example, 3 hits in rapid succession (tap-tap-tap), a pause, then 2 hits in succession.

Auditory memory

We have already seen the technique of acknowledging receipt, in which a verbal instruction is repeated (even if it has not been understood). It's a matter of at least repeating it accurately.

"Waiter, waiter" is a fun educational game that helps develop auditory memory. Each child comes and takes an order for one or more people. They should then leave the room, then come back in and serve everybody (by miming).

Rhythm can support auditory memory.

Martine Deneuville, art therapist and teacher of the Cécile Patin method, used her expertise to suggest rhythm exercises that don't use the tambourine. The children should sit in a circle, and each is asked to make a movement and a rhythm of their own devising, without speaking. For example, they could tap once or several times with their hands on a part of their body (thighs, tummy, chest, *etc.*).

- For example, the first child might clap their hands twice. All the children should repeat that gesture, which is like a "signature" for the first child.
- The second child might tap once on the ground and then clap their hands once. All the children should repeat that signature and then, individually, each should repeat the first and second signatures, one after the other.
- The third child devises their own signature and demonstrates it. All the children should repeat it, and then repeat in turn all three signatures.
- The game continues ` in this way.

- As a way of helping with the memorisation, sight can be used: as a child repeats the sequence of signatures one after the other, they can look at the originator of each signature as they repeat it.

Another game can help with learning the names of everyone in a group: "My name is". The group again sits in a circle, and the leader will ensure that the rhythm continues regularly. For the first time through:

- Start a regular rhythm at a moderate speed (andante), alternately clapping your hands and slapping your thighs. The children should pick up the rhythm and clap and slap along with it.
- Say your forename, for example by saying "My name is Andrew" and chanting it:
  - "My" as you slap your thighs,
  - "name is" as you clap,
  - "An-" as you slap your thighs,
  - "-drew" as you clap.
- The next one along continues by chanting "My | name is | So- | -phie", and so on around the circle until everyone has said their name.

For the second time through: the same but set off in the opposite direction.

For the third time through: you can call out to whoever you like in the circle, by saying "Andrew calling Sophie". This person can then call out to another child of their choice. And continue in this way.

Learning how to listen while moving around

<u>Standing upright</u>

The tambourine can be struck in various ways to indicate different movements with different styles as well as the rhythm:

Normal speed beating	=	normal alert walking
Fast beating	=	jogging
Slow beating	=	slow, nonchalant walk
No beating	=	stand still
Loud beating	=	walk noisily, stamping your feet
Quiet beating	=	walk quietly, on tiptoes

The group can be told to spread out around the gym area and move without going in circles (no roundabouts!), without stopping (no red lights!), and without bumping into other people (no car crashes!). This car driving metaphor is one we can often return to.

An experienced leader might be able to tap the tambourine in order to indicate a speed (slow, normal, fast), a type of step (gallop, chassé (step-together-step), polka step), and an intensity (loud or quiet). It will be essential to stop for each change in order that the participants don't get carried away by the fun of the game.

For young children it will be sufficient to manage indicating just the speed with the tambourine. Each of them can learn to master the instrument and control the group.

To familiarise with the notion of intensity, begin by taking four steps, stamping on the first step only: stamp – walk – walk – walk, stamp – walk – walk – walk… Then change legs so that both feet can feel the 'stamp'. To apply different intensities (strong/weak, loud/quiet) we can add an action to be done on the loud taps: for example, rather than stamping feet we could bounce a ball on the floor and catch it again without losing the rhythm. As well as doing this with a regular rhythm, such as "one loud tap then three quiet taps", other rhythmic patterns can be invented and tried by the children. It is important though to ensure that the patterns remain simple and achievable.

Now we can combine two factors into the instructions: speed and intensity. It can be easy to get confused between speed and intensity: a fast tapping is not necessarily a loud tapping! This educational activity can also be done with an individual, especially one who has been having difficulties mastering the task.

When this exercise is done as a group it can become a bit playful. While doing a normal speed loud beating, the rhythm being stamped out by the collective feet can enable the tambourine to stop altogether and let the group rhythm evolve autonomously. Anyone who is "lost" is carried along by the group as a whole. If we add in voice, it can become a marching song (*The ants go marching*, cadence calls, *etc*.): this way the children can enjoy mastering moving in sync.

On four limbs (quadrupedal)

Once the rhythms of the movements of these three animals have been practised, get them to do the animal movement corresponding to the sound beaten out:

- for a bear crawl (an alternating sequential movement of each paw): use a regular rhythm tapped out on the tambourine;
- for a bunny hop (jump forward in two stages, both hands then both feet): two deliberate beats made with a slap of the hand on the tambourine;
- for a frog jump (leap into the air from all four limbs at the same time): a single beat, slow and strong.

Climbing on wall bars or a climbing frame

This exercise involves climbing, which is really a vertical movement on four limbs. The following two exercises focus primarily on the movement of the feet, but in order to climb smoothly the hands will need to move at the same time.

a) directed climbing with alternating feet: the child should listen and follow the directions given by the tambourine. On each beat of the tambourine, the child raises one foot to move to a new level. Missing out a bar is not allowed, and neither is having both feet on the same level, so the feet must alternate.
b) accompanied climbing with alternating feet: this time the roles are reversed, so the person holding the tambourine accompanies the climbing by the other person, who can change speed as they wish. If they stop moving their feet (but continue climbing with their hands), the tambourine will fall silent. When the climber notices these silences, they'll need to adjust the way they climb so as to fill in the silent gaps. Achieving regular and continuous climbing requires a dexterity of movement of all four limbs.

Changing rhythm and location

This exercise involves paying attention to complex directions, and can be done with a single participant. If it's done with a group of three or more, then each participant's response to the directions can be checked by the person following them.

The participants need to follow an oral instruction given by the leader ("through" or "around"), and also listen to and identify the rhythm being tapped out on the tambourine (single beats, or pairs of beats), all of which tells them which route to follow.

Two rows of sticks are laid out on the ground, with a clear path through the middle. On one side the sticks are widely spaced, and on this side you must stride across each stick then bring the other foot level to end up standing in the next gap. On the other side the sticks are narrowly spaced, and on this side you must hop from one foot to the other, putting each foot down in the next gap.

The leader taps out the walking speed, and indicates a direction which is “through” or “around”: the participants walk in single file, following the rhythm of the tambourine and going either around the outside of the course or through the middle between the rows of sticks.

At any time, the leader can:

- either tap out a rhythm with pairs of beats: participants must stride across the widely spaced sticks.
- or tap out a regular rhythm of single beats: participants must hop from foot to foot across the narrowly spaced sticks.

The task for each participant is to listen to the rhythm and the oral instruction, and not just follow the participant in front, especially if they go wrong. Be sure to change who goes at the front of the line so that everyone has a go at being faced with having to figure out how to proceed without anyone in front to follow.

Keeping in time

Unexpected rushing and often getting out of time can be problematic when doing these exercises just as it can in daily life. Our goal is to help people keep to time by getting them to mark the rhythm of various psychomotor activities. It’s helpful to learn to be able to act without rushing or getting ahead using exercises where there is no academic or professional stake. This is why we count out an exercise, or use breathing, or chant a song which accompanies the physical actions. For example, a song like “The bear went over the mountain” can be used to set the rhythm for walking. Each instructor can find songs which work for them.

When the rhythm is expressed by the participant themselves, it becomes their timekeeper, their personal supervisor.

Within each session, listening exercises can be restarted and used each time as often as needed

B. FROM THINKING EXPERIENCED THROUGH BODY MOVEMENT TO EDUCATIONAL THINKING

In the context of educational recovery, the system of Thinking Experienced advanced technically with the work done by Odile Bergé, a speech therapist centred around relearning written language (in the method of Claude Chassagny): her viewpoint as a teacher and re-educator made it clear that some complementary technical notes were needed, particularly with regard to helping people grasp academic reasoning, notably for: the "zero point", left and right for reading, writing and decimal numbers, and using mental aiming to place cursive letters correctly.

Additional notes were also produced by Françoise Leclerc, a specialist teacher, and Thérèse Mouton, a dyslexia rehabilitator and French language teacher.

As Cécile Patin recalled, "*We found ourselves with a whole range of different ages, from 7 to 14, and one child in particular who needed to get back on his feet with his schoolwork schedule within two weeks to avoid having to continue struggling with futile schoolwork through the holidays and then being held back a year. The child couldn't explain where his difficulties were. So Odile [Bergé] and I began to work together to link up Thinking Experienced with remedial teaching.*"

1. LETTERS

Learning the alphabet

We get children to recite the alphabet letter-by-letter. To avoid parroting and rote-learning, we might need to use the finger game or follow a course of mats on the ground (one per letter).

<u>Finger game for learning the alphabet</u>

Say the first five letters of the alphabet, prompted by using a visual reminder if necessary, and piano-type with the five fingers of one hand. Then repeat the first and last letters, piano-typing alternately with the thumb and little finger, three times.

We should hear (when using the right hand):

A B C D E	A E, A E, A E
F G H I J	F J, F J, F J
K L M N O	K O, K O, K O
P Q R S T	P T, P T, P T
U V W X Y	U Y, U Y, U Y
And finally Z	

Letters that are being missed out when reciting the alphabet will become apparent, and by being placed on a finger they can be fitted back into the right place.

Experience working with a blind adult demonstrated how useful the finger game can be.

Course of mats

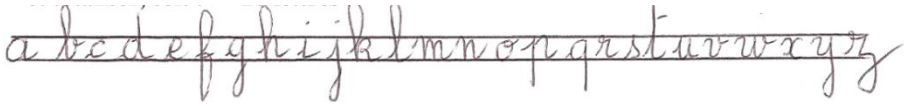
Step along a series of mats placed on the ground, reciting the alphabet as you go forwards or backwards. This can help to work with the letter before and after.

Locating the central stripe

In order to write legibly, it is essential that letters are placed on the same line and fit around the same central stripe (from the bottom to the top of a cursive "x" or "o"), which needs to be located. In order to do this we can lead the child through a writing journey in which we present to them lowercase letters from the Latin alphabet. We can get them to count all the letters: there should be 26.

Then we categorise the way letters fit around the central stripe by classifying them like this. Note that some details may need to be adjusted according to the exact handwriting style being taught, especially with regard to the shapes of "f" and "z".

- find all the letters that sit entirely within the central stripe, and count them — there should be 13.
- find all the letters that break out of the central stripe upwards only, and count them — there should be 6.
- find all the letters that break out of the central stripe downwards only, and count them — there should be 6.
- find all the letters that break out of the central stripe upwards and downwards, and count them — there should be 1.



Adding up these totals and comparing them to the total letters from the whole alphabet makes it possible to track down if necessary the letters that have been missed out of the appropriate category.

On a later occasion, having already presented the ways letters can fit around the central stripe and counted them up, you could explore the upper and lower space to find out how big the ascenders (upper parts of letters that extend upwards above central stripe) and descenders (lower parts of letters that extend downwards below the central stripe) are.

This is the style of handwriting taught to French school children. It helps them to acquire flexibility and hand control.

This kind of exploration will only work if people have fixed the relationship of their personal space around them before trying to apply it to a page of writing. So, for the youngest children, traditional games like hot cockles ("la main chaude" or "frappe main") in which sleight of hand and close attention are rewarded can be very helpful, especially with added verbalisation. Then, placing objects onto shelves, on a shelf above and on a shelf below, enables an important link to be made: higher up is above, and lower down is below. The exercises of climbing on wall bars or a climbing frame are also useful for this kind of learning.

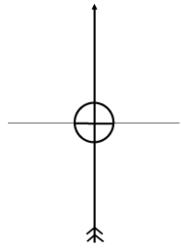
Orienting the four written letters b – d – q – p by reference to the "zero point"

The four letters b – d – q – p are often difficult to distinguish. The letters "d" and "b" are commonly confused, as are "q" and "p". This comes from not properly locating the left-right boundary (sagittal plane). Something similar can happen with the forward-facing boundary (frontal plane), for example when the letters "d" and "q" are confused, although this is less common. Other letter inversions exist too, like "n" and "u".

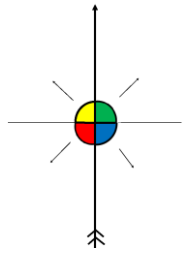
To learn these spatial locations, the following exercise uses the notion of the "zero point" which has previously been explored in the context of the whole body. On a piece of paper, the shapes will emerge into the four zones that we get as if using a cake-knife to divide a large cake into four equal

pieces. If there's any difficulty with this, it may be useful to revise the four-zone game, marking out the four zones with the arms.

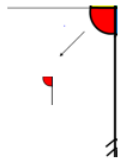
- Without mentioning that this is an exercise to do with handwriting, have the participants fold a piece of paper into four and draw along the folds and add a circle at the centre to be the "zero point". Have them make one line into the left-right boundary by putting an arrowhead at the top and two feathers at the bottom.



- Get them to make that line nice and strong and wide, and similarly for the outline of the circle and just the part of the horizontal line that is inside the circle.
- Have them colour in the four quarters of the circle with the same colours used when drawing the four zones.
- Add four diagonal lines to indicate that we are going to "slide" the colour parts out into the indicated zones. Don't let those lines touch the "zero point" circle.

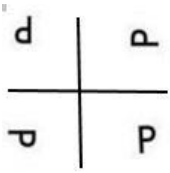


- In each of the four zones, copy the coloured quadrant at the other end of the diagonal line, again leaving a gap. Then add part of the left-right boundary line (the vertical line). To help with this step, it can be useful to fold the paper back along the folds made earlier so that only the quarter we are working with can be seen.



A child engrossed in this spatial location task might produce a variety of results. Make sure that they don't turn the paper around while working.

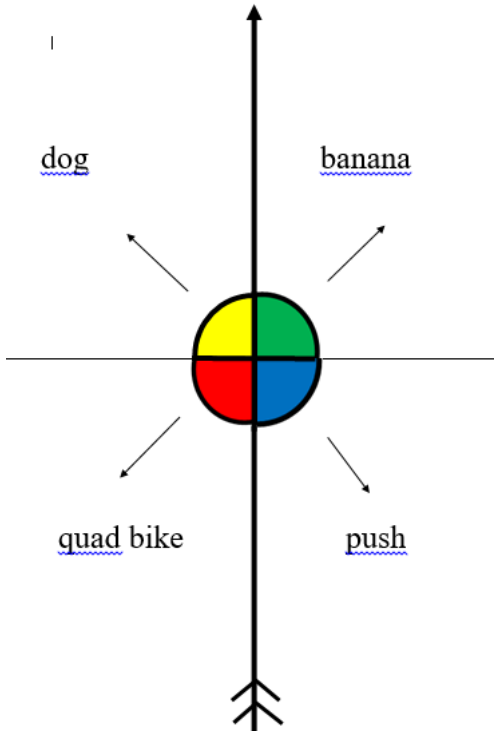
This example has some mistakes:



Here, the child has not fully grasped the notion of the left-right boundary being the vertical line.

- Once all four have been completed, have them unfold the paper again and talk through each one: the line goes up, or goes down; the quadrant is on the left, or on the right.

- When all the drawing is finished (and not before), ask them what these shapes might represent.
- Once it is acknowledged that these shapes are like letters, see if they can recognise each letter, and then find a word starting with each of the letters, and write that word into the appropriate zone in joined-up handwriting. Other words beginning with the same letter can be added later.



We can also talk about the "bowl" of a letter, which might be to the left or to the right of the vertical line, and the vertical line might go upwards or downwards. For children who haven't yet learned about "vertical" and "horizontal", there are some preliminary exercises that could be done (see later on in ***"4. Experiencing geometry", "Flat planes"*** **and** ***"lines"*****).** Alternatively, just talk about the left-right boundary, and where it crosses the "zero point" it separates "upwards" from "downwards". You can also refer back to the spatial corridor, and the illustration of the body frame on paper.

Once this spatial location on paper has been fully understood, there is another problem to overcome to ensure these letters are recognised and named correctly. It's not just by knowing whether the bowl is located to the left or to the right of the vertical line that we can tell whether we're looking at a "d" or a "b" – we could see a "d" but say it as a "b", and vice versa.

To complete this, we need to explore the direction of writing and imagine it as a timeline.

Locating before and after on the line of reading and writing

For English, the line of reading and writing runs from left to right, and this forms the basis on which we write letters and numbers.

For very young children, we could talk about the *writing road*, picking up the theme of a driving licence again. Draw a figure of a pregnant lady walking along this road: this makes it easy to visualise the big belly of the pregnant lady holding her baby. We can play a little game with the words: big belly, so *b* as in belly. The bottom is sometimes jokingly called the "derrière", from the French: so *d* as in derrière.

The writing road can also be used to help with writing numbers.

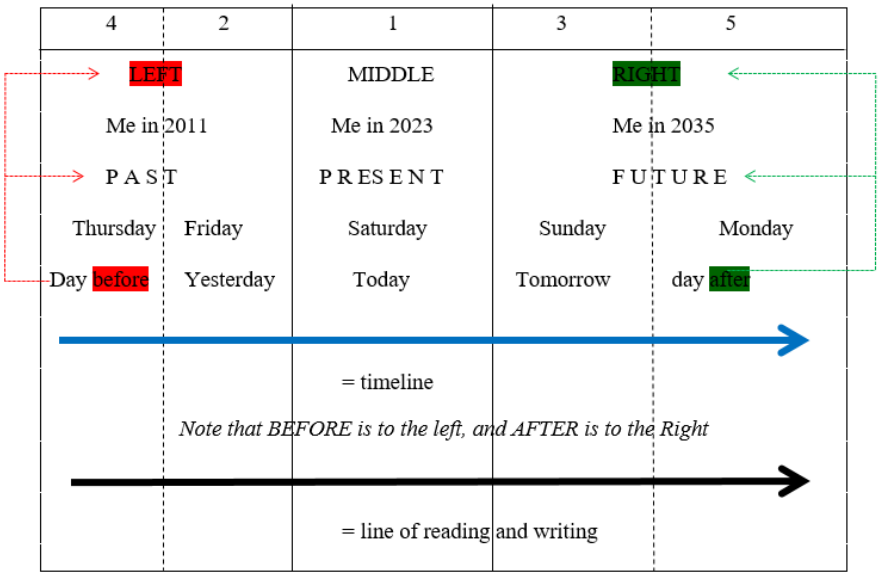
To experience left-to-right with the line of reading and writing, we can use the finger-keyboard game, where we had the idea of spelling out someone's name with piano-typing, one syllable at a time, for example: NI-CO-LA-THOM-SON. This can help to grasp that the direction of reading and writing goes from left to right, because in the reverse order the syllables make no sense.

In this way we can make the link between the line of reading and writing and a timeline. When we are writing, for example the word "ME", we need to remember that the "M" is before the "E", and the "E" is after the "M". In this way, the notions of the spatial and temporal arrangement can be linked.

In the same way that a timeline might put dates that come before to the left and dates that come later to the right, in reading and writing before is located to the left and after is located to the right.

One of the examples that Odile Bergé helped create concerned the French language, and the agreement of participles according to whether the object appears before or after the verb.

Odile Bergé helped develop a table to help students visualise before and after as columns either side of a central column which represents now. We can use this to steer our thoughts starting from the present into both the past and the future using days of the week. This table can help make the link between the line of reading and writing and the timeline. This was one of the outcomes of the collaboration between Cécile Patin and Odile Bergé during those first two-week sessions.



Identifying syllables

There's a lot of confusion that can arise with letters and words, but sometimes it's even trickier for children to grasp what a syllable is.

Odile Bergé used a simple rule: "*A syllable is each time you open your mouth!*" To put it another way, a syllable is each time a sound is made (and that sound might be written as one letter or as several). The trick then is to let someone shout out the syllables of a word: each separate sound can be marked with a clap of the hands, or a beat on a tambourine: you speak, you clap/beat, you listen.

2. NUMBERS

We commonly find that children have learnt to manipulate numbers parrot-fashion, without building the mental model of counting, just as can happen with letters as we saw in the previous chapter.

Internalising counting up to 10

For children who are reciting numbers by heart, just mimicking the sounds, it is important to build up their confidence working with the first ten numbers: and a body experience can help to get this to make sense.

Start with the vertical direction, on wall bars or a climbing frame: climb ten bars, one at a time, with alternating feet. At first, they can come back down however they like (but no jumping off!), but once the count up to ten is confident you can start to have them count backwards as they come back down. If there aren't wall bars or a climbing frame, you could use a step-ladder or a staircase to start with.

What makes sense on a vertical climb doesn't always transfer to the horizontal direction: we can set out rods on the ground to step over, or an agility ladder, or a line of hoops, or a series of floor markers (footprints, or geometric shapes).

The goal is to be able to say with confidence whether the number 2 comes before or after the number 1. By moving, we can experience whether it's a question of going forward or stepping backward. And we mustn't forget steps 4 and 5 of the method: the student must also be able to give an instruction to someone else and check their accomplishment.

There are lots of well-known games and objects that can be used to build confidence with counting: from dice to dominos, Ludo (Parcheesi), the card game of War (removing the picture cards and counting aces low), *etc*.

For counting up to twenty, the rhyme "1, 2, buckle my shoe" can be used. This is often encountered in a shorter version that stops at 10, but the full rhyme goes up to twenty and is found in many different versions, such as this one from the Oxford Book of Nursery Rhymes:

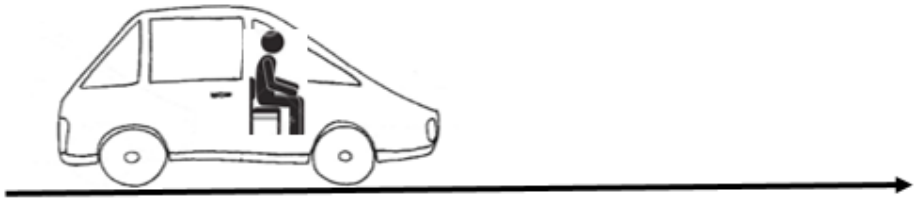
1, 2, Buckle my shoe
3, 4, Knock at the door (or sometimes: Shut the door)
5, 6, Pick up sticks
7, 8, Lay them straight
9, 10 A big fat hen (or sometimes: Do it again)
11, 12, Dig and delve
13, 14, Maids a-courting
15, 16, Maids in the kitchen
17, 18, Maids a-waiting
19, 20, My plate's empty.

For a body experience of counting to twenty, with more complicated words to master, we can use the 'Jumping Jack' (star jump) game. We need to count up to twenty and above in order to find the reassuring rhythm of the numbers one-to-ten again: twenty-one, twenty-two, twenty-three, *etc*.

Orienting digits correctly on the line of writing

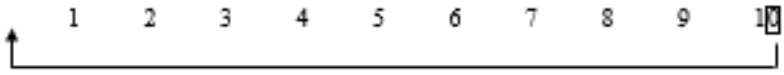
The digits can also present problems with locating and orienting them correctly. There are ten digits to learn how to write correctly.

We can return to the timeline, and the pregnant lady walking along the writing road, by telling a story about the baby being born ("1") and, at first, stays facing its mummy ("2" and "3" both 'face' backwards) and then turns to face forward ("4" faces forward) to move onwards in life. A picture of a car can also be used, with the digit "4" looking like the driver sitting at the steering-wheel. In the same way, we can devise little stories adapted to individual students to help with learning particular digits they are having difficulties with.



Placing zero relative to the single-digit numbers

One of the difficulties with counting is that the digits start from zero while we often count numbers starting from 1, for example in rhymes. Often, zero is considered as a kind of null, less important. However, in writing numbers it has an important role and does have a value: zero is the starting point for counting, and this notion is fundamental. When you're counting down, if there's no zero you can't have lift-off.



To help learn where zero belongs, we can ask what digits are needed to write the number "10". The answer is easily given: a one, and a zero. So, we can ask "OK, so 'zero' is a digit too?". The next thing to do is find out where it goes on the number line: the answer is it goes before "1".

Internalising numbers from 0 to 100, and understanding the number system

Reaching 100 is a major achievement for someone who has been struggling with counting.

We're now at the stage of learning how to write two-digit numbers, but it's important at the same time to continue handling physical objects and working with the numbers 1 to 10, and 11 to 20, to internalise the vocabulary for these numbers.

After carefully checking that participants are comfortable with following the rows and columns of a table (refer to the "Group game for collective working (Hebertism)" in the section on Exploring the centre and the sides using parts of the body), we can get them to fill out a grid like this one to categorise the numbers up to 100.

	0	1	2	3	4	5	6	7	8	9
1	10									
2										
3										
4										
5										
6										
7										
8										
9										

- On the top row, they should write the digits 0 to 9 in one colour, leaving an empty square at the start.
- In the left column, they should write the digits 1 to 9 in a second colour.

In the second row, write the numbers 10 to 19, respecting the colour code from the left column and the top row. They should write the tens using the colour from the left, then change pen to write the units, and repeat that for each number in each box.

Then repeat this for the remaining rows. If they are getting lost, it can help to return to the reassuring rhythm of the numbers one-to-ten, using a verbal accompaniment like this one:

- I copy over 1 and I bring down 0
- I copy over 1 and I bring down 1
- I copy over 1 and I bring down 2
- *etc*.

Constructing this table up to the number 99 opens up the possibility of continuing beyond the first 100.

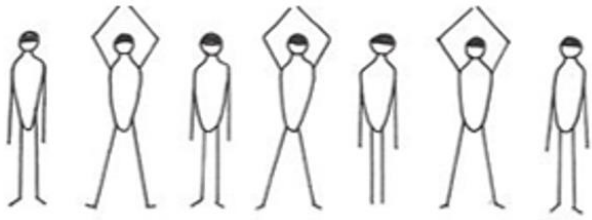
French words for the numbers from 70 to 99 have additional complications which Cecile avoided by using simpler names for these numbers that are used in some places.

Categorising odd and even numbers

The operations of alternating sustained thinking, with the buzzing marionette and the buzzing ladder-climb, enabled us to hear even numbers and odd numbers being counted out. It can also be useful to draw the different positions for the buzzing marionette and write the numbers from 0 to 9 underneath. The first drawing shows the starting position, or "ready", and gets the number 0, so that the first movement is then 1, the second is 2, *etc*.

Then, on a second line, have them say "zero" and write it in, count "1" in their head and add dots under the appropriate drawing, say "2" and write it in, *etc*. This will produce just the even numbers.

Finally, on a third line, have them do the reverse: count "zero" in their head and add dots, say "1" and write it in, *etc*. This will produce just the odd numbers.



Counting	0	1	2	3	4	5	6
Counting-buzzing	0	…	2	…	4	…	6
Buzzing-counting	…	1	…	3	…	5	…

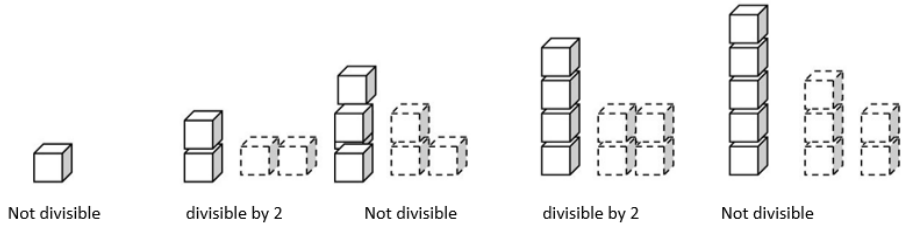
Now we can introduce the idea of a pair. A pair of glasses is TWO glass lenses; a pair of shoes is TWO shoes; *etc*. And one to make them giggle: a pair of buttocks is TWO buttocks!

A pair can be divided into two. The even numbers can be grouped into pairs, so they can be divided by two. The other numbers can't be grouped into pairs, because there will always be one left over, and those are the odd numbers.

Including zero with the even numbers

Write out the numbers from 1 to 10 and find the numbers that can be divided by two: this gives 2, 4, 6, 8, and 10.

If there's any difficulty in figuring out which numbers can be divided by two, you can use cubes, or something similar, and divide them into equal groups by hand: "Can be divided evenly" or "Can't be divided evenly".



Write the odd digits into the first row of a table with five columns, then fill up the grid with numbers up to, say, 39 (which fits neatly into four full rows), or continue higher. There are five odd digits, and the numbers are grouped into matching sets in the columns.

1	3	5	7	9
11	13	15	17	19
21	23	25	27	29
31	33	35	37	39

Write the even digits into the first row of another table, then continue to fill up the grid with numbers up to 40, or higher, but make sure that the first row is reserved for single digits only. This means that "10" has to go onto the next row, and because there are only four even digits in the table people will often produce something like this:

2	4	6	8	
10	12	14	16	
18	20	22	24	
26	28	30	32	
34	36	38	40	

But this table is a bit of mess, and the last column remains empty, because the initial zero is missing.

To help people figure out where the zero needs to go:

Point out that the numbers are now askew rather than grouped into matching sets in the columns.

Add up the starting numbers: 5 odd numbers + 4 even numbers = 9, but there are 10 digits in total.

Zero is the missing digit. Where should it go? Before the "2" in the row of even digits.

Zero is one of the even numbers.

It is important for children to reconstruct the second table with the zero in its proper place. This exercise is essential for being able to move on to

learning how to work with weights, areas, and volumes as well as writing numbers with a decimal point.

0	2	4	6	8
10	12	14	16	18
20	22	24	26	28
30	32	34	36	38
40	42	44	46	48

Basic operations with numbers

With addition, and also with multiplication, it's important to understand and be able to use *commutativity*. Cécile Patin found this body movement helped one child who wasn't managing to turn around the addition logic: 1 and 2 = 2 and 1. In arithmetic we denote "and" by "plus" (+), and "is" by "equals" (=), but for younger children "1 and 2 is 3" can sound more comfortable.

This is nothing more or less than a *mental back-and-forth* which we can get them to experience physically:

say "1 and 2 = 3" and do a forward roll;
say "2 and 1 = 3" and do a backward roll.

Setting up the addition tables

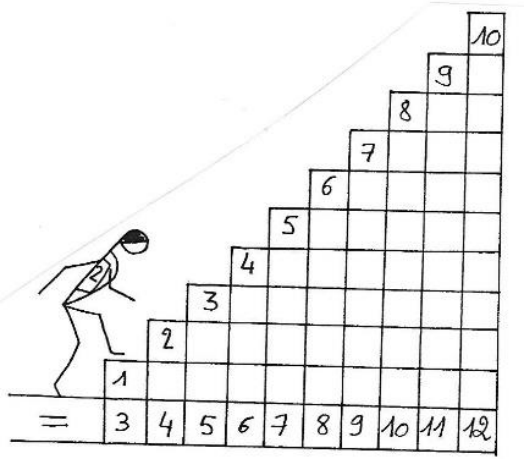
Here is one kind of error or difficulty that can arise when someone is trying to create a "2+" addition table, for example:

2 and 1 = 3
2 and 2 = 4
2 and 3 = 5
2 and 3 = 6
2 and 3 = 7, *etc*.

The number 3 has become stuck, because they are no longer paying attention to it. Their mental process is like an express train, jumping straight to an answer, rather than like a bus, carefully calling at each stop. We need to find a way to make sure they notice which row of the table they are on, or which "step" they need to climb to.

First suggestion: a graphical demonstration

Here is a picture which shows a staircase with ten steps. The person is wearing the number 2 (like a bib number or jersey number). The bib number tells you which table we're making, and combines with the number on the step to produce the result shown below.



Second suggestion: a body experience

Say "2" and touch your head (to indicate that 2 is the table we're making);

Say "and 1" and touch your knee (this is the step we need to climb to);

Say "is 3" and touch your feet (this is the result).

Now do the same sum in reverse, as a reminder of the commutativity.

Say "1" and touch your knee;

Say "and 2" and touch your head;

Say "is 3" and touch your ankles.

The goal here is to provide a framework to enable the system to be constructed in their head: the number of the table (head, or bib number), the number of the step (knee, or step), and the result. This is an effective way to master addition tables and learn them effectively.

Setting up the times tables

We can use the same body movement as before for those who are good at acrobatics. This is particularly useful with children who need to move around a lot.

- Say “1 times 2 is 2” and do a forward roll
- Say “2 times 1 is 2” and do a backward roll.

We can also combine this with the suggestions outlined above:
- Say “1 times” and touch your knee (this is the step we’re on)
- Say “2” and touch your head (this is the times table we’re making);
- Say “is 2” and touch your feet (this is the result);

Then do a forward roll.

And now:
- Say “2 times” and touch your head;
- Say “1” and touch your knee;
- Say “is 2” and touch your feet;

Then do a backward roll.

Fluidity in spoken delivery

It is important to be able to wait for the mental processes of each child as they produce addition tables and times tables, to ensure that the principles are learned thoroughly and by heart. There shouldn’t be a time limit on this: they should take as long as they need to say each result accurately.

For example, there will be some who say: “7 and 3 is… *er*… …10!”

Encourage them to think before they speak. Cécile Patin insisted that they pause (catch their breath) while doing the mental arithmetic until they could say in one go “7 and 3 is 10”, without any “er” or “um” or hesitation.

By eliminating the hesitations from what is spoken, a reassuring rhythm is established which is easier to learn and repeat by memory. Nowadays it is easy to record a child who is speaking hesitantly so that they can hear their own “er”s and “um”s and eliminate them to achieve a fluid spoken delivery.

Of course, we don’t only work with children, because educational support is often important to adults too.

I have been working recently with a blind lady who was mistreated as a child, did not learn to feed herself with a spoon until she was 15 years old, and could not walk unaided until she was 16 years old. Not having been

able to go to school, she wanted to learn how to count, to recite the alphabet, and to locate and orient herself in space. One of her own goals was to be able to count down like everyone else on New Year's Eve.

When it came to learning the tables, this lady found it easiest to make the movements to touch her head, knees and feet while sitting in a chair.

What is important is that each person chooses what works for them from the exercises and activities we suggest. Even if someone is disabled, their mental processes can still be assisted by a body experience, albeit limited or modified, and can readily be applied to manipulating physical objects.

3. TIME AND TIME FRAMES

At school we need to know the calendar: days, months, years, centuries, all this features in the syllabus. But learning this by heart doesn't mean that time makes sense to us, as children or as adults. Does "this weekend" mean the weekend just past or the weekend to come? A hazy grasp of time can be a day-to-day problem. During a course, we work systematically through the concept of time and the time frames that have meaning to our lives, even if the group does not need to work on counting.

Their date of birth is the starting point we use to fix a child in their own life story and so in time. Explaining how reproduction works, from conception through the months in the womb and finally with being born, enables some important aspects of time to be introduced. Starting with time before and after their birth we can then move on to dates before and after the epoch on the timeline of history.

Although it may not be easy to explain all this to children, they definitely need to be told about where they come from, and schools often tackle this too late.

Formely, when we told parents we'd tackled these subjects with their children, they thanked us for it. Nowadays it's more a matter of warning them of the possible language liberation of their children.

From the “zero point” in space to a “zero hour” in time

Just as we worked on understanding our personal space from our own “zero point”, we can use the same principle as the starting point to understand time. Children will come to understand how important zero can be through a countdown to their own birth: the nine months of waiting during pregnancy through to the “zero hour” when they were born, the start of their existence on earth, the starting point of their life.

We will measure each child’s time from their “zero hour” and summarise in a table the different measurements and time frames from the first second up to years of their life. There’s some preliminary work to do if the child is not yet able to rank the measurements of time on this table.

Experiencing duration

Seconds and minutes

We get participants to carry out actions for a specified duration given as a number of seconds, building up to the notion of a minute. Examples include: blow on a feather or a scarf for 10 seconds; run for 30 seconds; shout for 5 seconds; throw a ball as many times as possible in a minute; *etc*. Then have participants in turn use a stopwatch to check each other’s actions or lead the group.

In groups, a stopwatch might already be used for penalties. For example, during an activity if a child breaks the rules, they might be required to sit out of the activity for one minute (or longer…), like in ice hockey matches. Then they need to use the stopwatch themselves to time the required period and return to the activity when their penalty is over.

A stopwatch can also be used to measure time for schoolwork, not as a race but to measure the time they take. In this way, durations up to an hour can be experienced. By doing this, pupils learn to finish a task within the given time limit. Note that telling time from a clock display is another stage of thinking which is not needed for completing the table of time frames: all we will need for that is to explain how many hours there are in a day, and that’s often different to what is shown on a clock. Telling time from a clock is a specific task which takes time to master, and it’s not included as a thinking experience but could be taught separately.

Days

For the youngest children who don't yet know the days of the week, we suggest linking them to parts of the body to help learn their order. Get them to put their hands on their feet and say Monday, on their knees and say Tuesday, on their thighs for Wednesday, on their hips for Thursday, on their chest for Friday, on their neck for Saturday, and on their head for Sunday.

It can also be helpful to work horizontally with markers on the floor: each child steps across them while reciting the days of the week. They could also be asked to step forward or backward, still saying the appropriate days, to learn the places of each day even better: they should say the day they were on before and the day they are on after the step. As usual, participants can then go on to give the instructions and check the answers for each other.

It is essential to work at this little by little. Following each participant's progress, I have often found that many sessions are needed before they can successfully complete this exercise across all seven days. Repeating the exercise, and recovering from each mistake, leads the child towards eventual success.

A week

Knowing how to say the days of the week doesn't necessarily mean that the week is seen as a seven-day measure of time, while expressions like "last week" and "next week" need to make sense. We will count the weeks in a month and in a year. We also need to unpick some language which can be confusing, for example to explain that "in a fortnight" means in two weeks' time. To get a visual grasp of weeks we can use various calendars.

Months and years

In order to figure out a complete year, the months need to be learned, and we can also use a calendar to practice the names of months in order. The horizontal exercise with markers on the floor can also be repeated for this, taking steps forward and backward as before. The markers can also be numbered first, to enable the number of each month to be associated with its name. Sometimes it can be tricky to remember which month comes first in the year, before moving on to put the ones that follow in their places.

The numbers of days in each month also need to be established. The knuckle mnemonic is one well-known approach, closing one hand into a fist and moving across the knuckles, with each knuckle being a 31-day month and each depression between knuckles is a 30-day month (or 28/29 days in the case of February). Another favourite method is to learn the rhyme:

Thirty days has September,
April, June, and November;
All the rest have thirty-one,
Excepting February alone,
And that has twenty-eight days clear
And twenty-nine in each leap year.

Then a full year can be constructed in the form of a vertical list of all the months: the children should write the number of days next to each month, then total them up to find the number of days in a whole year.

A table showing the story of my birth

We lay out this table by dividing the space into three wide columns: the one on the left is headed "BEFORE" and is for the pregnancy; the one in the middle is headed "DATE" and marks the birth and the "zero hour" of your personal existence; the one on the right is headed "AFTER" and represents your presence in the world and the age which began at your birth.

A countdown from 9 months of pregnancy is said out loud by everyone together: "9, 8, 7, 6, 5, 4, 3, 2, 1" and the final "zero!" should be shouted in a joyous outburst. The countdown should be written into the "pregnancy" column, and the zero into the "birth" column, adding rays around it like sunbeams. Finally, the time periods should be added into the "growth" column on the right, counting them out and adding them up to make your exact age.

Story of my birth

BEFORE	DATE	AFTER
pregmancy = 9 mois	birth	growing
9 8 7 6 5 4 3 2 1	0	1 seconde, 2 secondes…
		1 minute, 2 minutes…
		1 hour, 2 hours …
		1 day, 2 days…
		1 week, 2 weeks…
		1 month, 2 months…
		1 year, 2 years…

Now we can get them to write out a "birth certificate" for themselves, showing their date of birth (day, month, and year), the time of their birth (just the hour is enough, no minutes), and the day of the week they were born. Children often muddle up their date of birth with the date of their last birthday: they are always thrilled to find out their actual birth day.

Birth certificate

I was born on _____

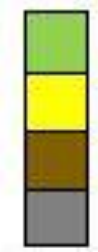
Time of birth_____

This was a (day of week) _____

This work always throws up its own share of comments and questions, some of which we won't always be able to answer. We will often need to call on the parents to provide the time of day of their birth.

The cycle of the seasons and generations

The cycle of the seasons is a good basis for discovering other cycles we encounter in life.



Children often associate wintertime with the start of the new year, which was set as January 1st in the Gregorian Calendar. It's important to draw their attention to the changes that happen through the year in the natural world: in spring time, nature reawakens, and this is a season of flowers, warm days, and baby animals; in summer time, nature grows, and this is a season of lush green growth, hot days, and ripening fruit; in autumn, nature matures and dies back, and this is a season of harvest, cooler days, and falling leaves; in winter, nature mostly sleeps, and this is a season of bare branches, cold days, and snow.

The seasons can be presented as a stack of four squares to be coloured in, using colours drawn from the natural world and the changes in each season: green could represent the new growth of springtime, yellow the sun of summertime, brown the leaves of autumn, and grey the cold of winter. There's a start, a development, an end, and then the cycle starts again.

A family tree:

The children are asked to create a family tree showing four generations: themselves at the base of the tree, with two parents above, then four grandparents, and eight great-grandparents. This can lead to a discussion of the roles different people play in each family: you will need to be ready to have a frank discussion with the child who might need to create several trees to represent the people who are important in their families: for example, a blood-relations family and a stepfamily, or an adoptive family for some foster children. Completing these family trees will often need help from the parents. It's not uncommon for a child to be unfamiliar with one side of the family, but it is important for them to know about their own history.

The generational cycle and the rhythm of life:

The seasons and their colours can be used to make a link to the four generations from the family tree. Taking a human life to extend roughly

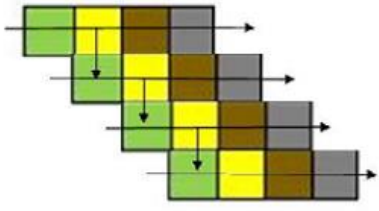
over one hundred years, this can be divided into four 25-year segments which we can colour like the seasons:

Childhood (me)	0 – 25 years
Adult (parents)	25 – 50 years
Midlife (grandparents)	50 – 75 years
Senior/elder (great-grandparents)	75 – 100 years

To help build this notion of a generational cycle we can turn the column sideways to make a row of segments: as time goes from left to right, we can say, *children grow into adults and become parents, adults grow into midlife and become grandparents and then are senior/elder and become great-grandparents!*

We can give children a chart like the one below, with just the outlines of the squares already marked:

- first colour in just the top row to make the cycle of one life,
- then draw a long arrow which runs right across that row, while saying "children grow into adults and become parents, …" *etc*.
- now draw a short arrow down, saying "parents" (the yellow square) "have children" (green square on the next line).
- continue to colour in the second generational row, using the same colours, and adding an arrow, and always saying the generation's progress out loud.



Children grow into adults who become parents,

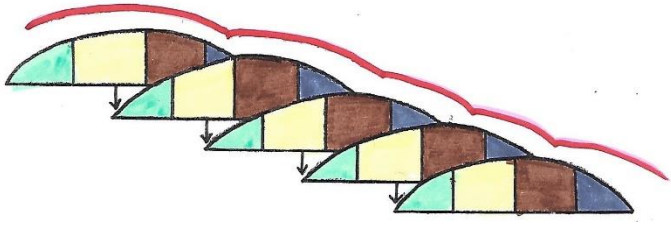
who have children,

who grow into adults who become parents,

who have children, *etc*.

An alternative design created by one of our trainees, Mrs Tholence, represents even more effectively the growth of children into adults and the

gradual passing of seniors/elders. It also provides an opportunity to broach the subject of death.



The cycles of life:

Here we discuss the cycles of life. For youngsters who are just starting their life, it can be helpful for them to see how human energy and vitality goes in waves, with high points and low points. Children can feel reassured that they are in the first phase of their life.

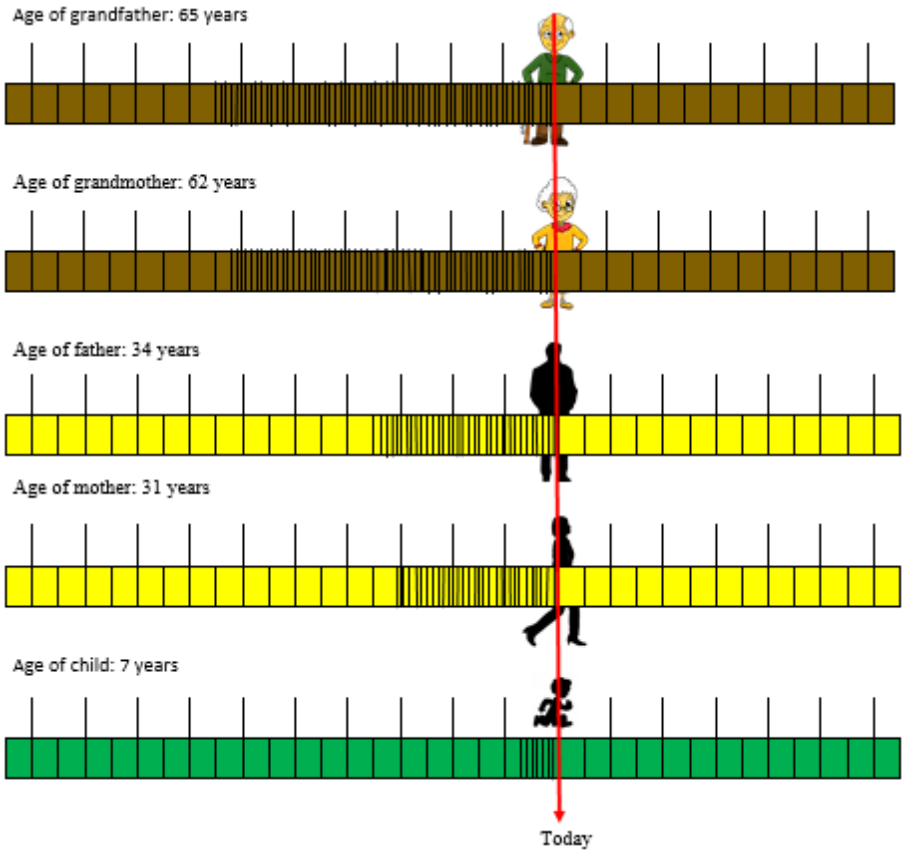
We can use different images and analogies according to the needs of each group or individual. A stone dropped into water makes waves, and rippling the water in a bowl with your hand can move a little boat that was stranded in the middle over to the far side. Waves carry energy by going through high points and low points.

Your heartbeat is a wave: each time your heart beats there is a high point, when the muscle contracts, and a low point, when it relaxes. If your heart muscle stays contracted, as it does when paralysed during electrocution, or if it stays relaxed, as it does when you pass out during drowning, this can lead to death. Rhythm is a natural law.

After talking about this with a group, Cécile Patin overhead one child saying "*Oh, I understand now why people say 'Move over, it's my turn now*'!"

One way that she proposed to bring another dimension into this discussion is to make a diagram that shows the life experience of the child compared to the experience of members of their family.

Family experience



We're concerned here with the ages of the child's parents and grandparents who are alive at the time the diagram is being made. By illustrating each family member's age by a series of bars, the steps along the course of their life show how long they've lived and how much experience they have gained. The course of the child's life is only very short at the moment, and this can help them understand their position as being in a hierarchy of levels of experience and not with equivalent experience to their elders.

Each family member is shown with a course of their life, which is a long strip running from the left (the past) to the right (the future). They are all placed at the same position which corresponds to today. Each strip should be coloured in with the appropriate colour for that person's generation: green, yellow, brown, as in the cycle of generations. Then the years of each person's life so far should be drawn to the left in the course of their

life: in the example above, that is 65 for the grandfather and 62 for the grandmother, 34 for the father, 31 for the mother, or whatever the corresponding ages are. And finally, the child should mark the number of bars for their own life, which would be 7 bars if they are currently seven years old. To make this easier, scale marks can be added: a short marker for every five years, and a long marker for every ten years.

Time and history

The final step is to locate someone in time and history. And starting from the time you were born is once again the key that Cécile Patin used to present a concept that can sometimes be quite confusing: counting dates and times.

There is a particular problem that adults often struggle with just as much as children, which is the fact that things are numbered from zero (from a chosen "zero point", or with a difference of zero from another known time) but we tend to count things starting from one. We encountered this earlier when learning numbers and we needed to place zero into the number system, and it crops up again with dates and times. This is why, for example, the year 1066 is in the 11th century.

This work is purely a pen-and-paper exercise without a body experience to go with it other than the graphical experience of filling out the drawings.

1. Counting days

Suppose we have a child born on Saturday 25th July 2015 at 4pm.

	1am	2	3	4	5	6	7	8	9	10	11	12pm	1pm	2	3	4	5	6	7	8	9	10	11	12am
Sat	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	●	+	+	+	+	+	+	+	+
Sun	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Mon																								
Tues																								
Wed																								
Thurs																								
Fri																								
Sat																								

Make a table with the days of the week down the first column and the 24 hours of the day across the top: 1am up to 12pm (midday) and 1pm up to 12am (midnight).

The person should now fill out the line for the day they were born in this way: since they were born on a Saturday (for example), they should add orange "minus" signs from 1am up to (but not including) the hour they were born (4pm in our example). We can explain that these "minus" signs are a sign of their absence.

At 4pm, the "zero hour" of their birth, add a circle coloured in green. For children we can explain that this is a green traffic light that means they can start now. Then they should fill the row with green "plus" signs all the way up to midnight. They can then count up the hours they were alive during their first day (marked by green crosses) and fill out the following sentence:

On …… …… …… …… at midnight, I was … days and … hours old. It was the …… day of my life.

In our example, this will give:

- *On **Saturday 25th July 2015** at midnight, I was **0** days and **8** hours old. It was the **first** day of my life.*

Now they should continue with the following day (Sunday, in our example), with 24 "plus" signs, and complete the sentence again:

- *On **Sunday 26th July 2015** at midnight, I was **1** day and **8** hours old. It was the **second** day of my life.*

Then they continue with the day after that (Monday, in our example), to get

- *On **Monday 27th July 2015** at midnight, I was **2** days and **8** hours old. It was the **third** day of my life.*

A common mistake is to add up the total number of green plusses in the table. The important thing for them to understand is that a full row of plusses is equal to one whole day.

Draw attention to the fact that the number of whole days is always one off from the days we count ("*I was **2** days old…*" = "*It was the **third** day…*").

2. <u>Counting months and years</u>

The same rules for numbering and counting can now be applied to the whole calendar. This part of the work involves calculating dates, and to do this the child will need to be able to look dates up using a calendar. This will involve finding dates which are located several days and several months

after they were born. Then they can once again complete a series of sentences like these ones:

- ***5 days*** *after I was born, at midnight on …… …… …… …… [They need to find out the exact date], I was … days and … hours old. It was the …… day of my life.*
- ***10 days*** *after I was born, at midnight on …… …… …… …… , I was … days and … hours old. It was the …… day of my life.*
- ***18 months*** *after I was born, at midnight on …… …… …… …… , I was … years and … months old. It was the …… year of my life.*

In our example, this will give:

- ***5 days*** *after I was born, at midnight on* ***Thursday 30th July 2015****, I was* ***5*** *days and* ***8*** *hours old. It was the* ***sixth*** *day of my life.*
- ***10 days*** *after I was born, at midnight on* ***Thursday 30th July 2015****, I was* ***10*** *days and* ***8*** *hours old. It was the* ***eleventh*** *day of my life.*
- ***18 months*** *after I was born, at midnight on* ***Thursday 30th July 2015****, I was* ***1*** *year and* ***6*** *months old. It was the* ***second*** *day of my life.*

In this final example, it is always interesting to see how they cope with working out the year. Basically, children born in the first six months of the year only need to increase the year by one, whereas children born in the second six months of the year will need to increase the year by two.

This is an example of how time in our personal experience doesn't always align with time in official calendars and clocks.

3. Counting dates and centuries

Provided children have learned something about dates in the past and important years in history, they can continue with this next piece of work.

One year, two years, ten years … There are things that happen, events that take place, which we want to record: this is history. Our own history is in the 21st century, but before that was the 1st century, the 2nd century, the 3rd century, *etc*. We can explain that the length of a "century" is 100 years, and that leads into the following study:

- The year **787** is **7** centuries and **87** years, and it is in the **8th** century.

This century can be written with Arabic numerals or Roman numerals: both are often seen.

- The year **787** is **7** centuries and **87** years, and it is in the **VIIIth** century.

Then they can be given additional lines to fill out:

- The year **1066** is … centuries and … years, it is in the … century.
- The year **1492** is … centuries and … years, it is in the … century.
- The year **1752** is … centuries and … years, it is in the … century.
- The year **1978** is … centuries and … years, it is in the … century.
- The year **2020** is … centuries and … years, it is in the … century.

4. Counting our own age

Applying the system of counting to our own age is always a thrill for children, especially when they discover that this way a child who is 7 years and several months old can say that they are in the 8th year of their life.

The sentence to complete:
Today, on …… …… …… …… , I am …… years and …… months old. I am in the …… year of my life.

I am in history!

4. EXPERIENCING GEOMETRY

The concept of a line is fundamental to learning about reading or writing. There are straight lines and curves. The terminology here will be encountered first as a body experience and then located in space and only then drawn onto paper. There are differences that need to be made according to where we are working: on a table, on the wall, on paper, in space, *etc*.

In geometry there is still more complicated terminology: a sloping line in a square could be a diagonal, in a triangle it could be a median or a bisector, and in a circle, it could be a diameter or a chord.

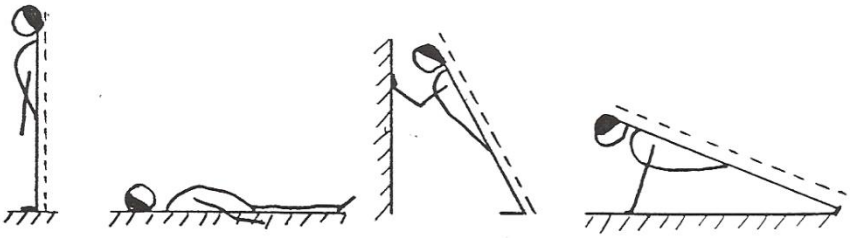
For those who are not able or not yet ready to take on board this kind of technical vocabulary, we need to set some intermediate goals in the form of thinking experiences which help master the fundamentals.

Flat planes

We need to understand bodily the flat planes: vertical, horizontal, and sloping.

To demonstrate verticality, we can get the children to climb wall bars or a climbing frame to the top while holding a small ball in one hand: they can imagine themselves to be rock-climbing, or going up a tall building or high tower, and think of the fear of open spaces or heights that some people will experience. What would we say those people were suffering from? Children will readily suggest the word: vertigo. Then get them to drop (without throwing) the ball from their hand, and it will fall vertically down, and the children can make the connection between these two words: vertigo and vertical. Have them climb up again several times if necessary to ensure that they won't confuse the vertical plane with any other.

To finish the exploration of flat planes, have the children make their body stiff and straight ***upright, lying down***, or ***leaning***. We then link these concepts to geometric ideas, as these correspond to vertical, horizontal, and sloping planes. When working with a group we can notice how a sloping plane can be made either by pushing off from the ground or from the wall: we can call these a steep slope and a gentle slope.



We can use a stick to explore how a straight line along the body axis lies in each of these flat planes. For this investigation, ask them to position the stick in each of the planes we have explored, either using the spatial terminology (upright, lying down, leaning) or the geometric terminology (horizontal, vertical, sloping).

To continue this exploration, we can also get the children to find objects aligned on each kind of plane: find a vertical object, a horizontal object, and a sloping object on the table (including small ones and larger ones), then in the room, and finally in the distance looking out of the windows. Get the children to verbalise what they see, for example by saying "***Here****, on the table, I see a horizontal ruler, a sloping pen in the pencil pot, and a vertical water bottle.* ***There****, in the room, the wall is vertical, the gym mat is horizontal, and the chair legs are sloping.* ***Over there****, across the street, the trees*

are vertical, the road is horizontal, and the lights for the football pitch are sloping."

Finally, this can lead to some drawing work. What things have vertical or horizontal or sloping features? A ruler can now take over from the stick we used earlier for the body experience in order to draw examples of each, first of all on the wall on an erasable writing board, then onto paper pinned to the wall which can then be laid on the group. Eventually the work can be done sitting at a work table using pen and paper. A drawing of the setting sun can be a useful way to link the line of the horizon with sloping rays of sunlight.

Lines

In the same way that we explored the flat planes, the three types of line that we use in handwriting – straight lines, curves, and zigzags – can be experienced with the body by forming their shape, then projecting the shape into the space around, and finally by drawing them on paper.

The body experience of the lines can start with the body axis, which forms a straight line when we are standing upright. It's then easy to ask them to make a curve: children will often spontaneously bend forwards to make a curve. We can then find other ways to make curves: bending sideways, leaning backwards, rocking on the ground, *etc*.

Zigzag lines are a little trickier to make, because if the bending of the ankles, knees and hips is too relaxed it can lead the back to bend, whereas we want a series of straight sections. Remind them to think this through: "Look out! Your fifth hinge (your back, your thoracic vertebrae) is bending!" will draw their attention to the need to keep each part of their body straight to make a neat zigzag.

We have included as an appendix an extended investigation of the first three hinge joints which Cécile Patin used in her teaching (Investigative work on the bending and straightening of the first three hinge joints).

This study starting from the body axis can be helpful with handwriting after experiencing the three types of line — straight lines, curves, and zigzags — and the orientation of straight lines in the three flat planes — vertical, horizontal, and sloping.

For example, a child who is struggling with forming capital letters can trace out their shapes while verbalising each stroke of the pen:

For "I": *I draw a straight line from top to bottom (vertical).*
For "T": *I draw a straight line upright and on top of it a shorter line lying down (horizontal).*
For "C": *I draw a large curve to the left starting at the top.*
For "P": *I draw a straight line upright and a smaller curve high up to the right.*
For "B": *I draw a straight line upright and two smaller curves to the right.*
The letters "M", "N", "V", "W", and "Z" use zigzag lines.

The same thing can be done for writing digits. By speaking, the child moves their hand while visualising the graphical movement, and this helps with remembering it. Constructing the shape by matching the gesture to the words loads it into the memory and reinforces the natural learning process.

Angles

The basic types of angles are going to be experienced in three dimensions. The goal is to use the body and the ground to form right angles, straight angles, acute angles, and obtuse angles. The vertical straight line of the body axis will be our first starting point.

<u>Experience using the body axis</u>

- standing upright, the line of the body represents a **straight angle** (180°).

- by bending at the waist, the bent line of the body can represent: a *right angle*, an *acute angle*, and an *obtuse angle*.

Right angle obtuse angle acute angle

This first stage can also be varied by using different gymnastic positions: face down, lying on the back, on your side, *etc*.

Experience using the arms in a horizontal plane

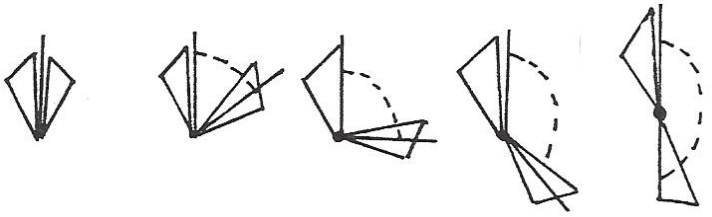
With both arms wide open, recall how we located the "forward-facing boundary" (as shown in the first image below). Then keep one arm where it is while moving the other arm forward as we did when exploring the extent of the visual field: as the arm moves, form a right angle (as shown in the second image), a smaller angle than a right angle (third image), then a larger angle than a right angle (fourth image).

Graphical representation:

Experience using the feet

Start with both feet together (as shown in the first image below). Then one foot should stay where it is at the bodily foundation while the other turns gradually outwards to make, in turn, an acute angle (as shown in the second image), a right angle (third image), an obtuse angle (fourth image), and then… see if you can manage to make a straight angle! (as in the fifth image)

Graphical representation:



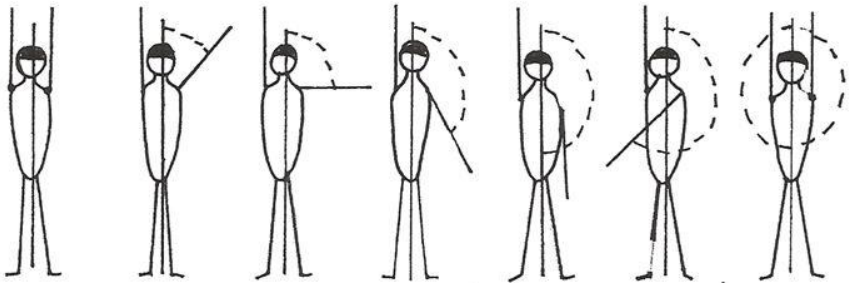
Experience using the arms in a vertical plane

During the 1960s, Cécile Patin was looking at a correspondence course which one of her students who suffered from polio was doing, and was reminded by it to also refer to angles as reflex and full (or complete), which helpfully keeps in mind the complete circle.

When looking at a picture, it isn't possible to tell the difference between the zero angle and the full angle. When the child of a baker was struggling with the difference, Cécile Patin got him to imagine a whole pie and then said, "you can eat the zero angle, and we will all eat the full angle!".

To make all the different angles, get them to imitate a clock (as seen by the rest of the group) by holding both arms straight up in the air (twelve o'clock), then keep the right arm fixed while bringing the left arm gradually down, across, round, and back up, to make a complete turn.

When doing this again, get them to start from the top and then stop and draw different angles as they make them, and name them. They can fill out a diagram like this one by filling in the left arm and the dotted line on each of the drawings.



Zero acute right obtuse straight reflex full or complete

The diagram can then be finished by adding the number of degrees of the zero angle (0°), right angle (90°), straight angle (180°), and full angle (360°), and writing these under the appropriate figures.

These can be worked out with the help of a teaching clock, and a right angle which is 90°. The right angle fits into the full angle four times, and represents a quarter of an hour, or 15 minutes. From this, we can deduce the number of degrees for one minute, and we can visualise that angle. We can do the same thing for any angle, keeping in mind a mental dial which enables us to construct a **mental protractor**. This full study can be tackled after mastering the clock face.

Cecile found ways of using the French vowel sounds to help children remember the difference between acute and obtuse angles. This doesn't apply to the English language, but each teacher is encouraged to find tricks and tips that work for the people they are teaching.

5. SUBDIVIDING SPACE AND TIME

Cécile Patin liked to start the exploration of space by embracing the whole of geography, which meant introducing some fundamental ideas.

The compass rose

One of the fundamental ideas it is vital to grasp is the notion of the **cardinal points** which will help us orient ourselves.

Gathering around a **geographic map** on the wall, we can repeat together:

North is at the top.
South is at the bottom.
East is on the right.
West is on the left.

For those who are still a bit lost, we can add a body experience to accompany the recitation, using the arms:

Say "*North is at the top*" and lift an arm vertically up.
Say "*South is at the bottom*" and point the arm straight down.
Say "*East is on the right*" and lift the right arm to point right.
Say "*West is on the left*" and lift the other arm to point left.

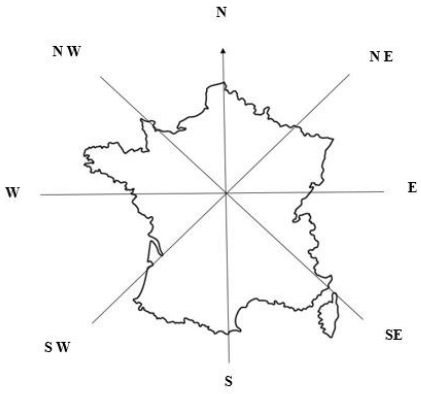
Now we can transfer that experience onto paper:

Fold a piece of paper in four, and then draw a cross along the lines of the folds, as we did when exploring the forward-facing boundary and left-right boundary to draw the four zones. Remember to put an arrowhead at the top to indicate the forward direction. These are the four zones we've already located and experienced, and also present the four quarters which we will subdivide further and so introduce **fractions**.

The children can now recite the cardinal points as before, placing the initials (N, S, E, W) while correctly repeating the top, the bottom, the right, and the left of the cross.

Sometimes it is necessary to find additional ways to locate East and West correctly. Some people find mnemonics helpful, such as "**N**ever **E**at **S**oggy **W**affles" (N-E-S-W). Or simply point out that someone who knows where West and East are, is **W**IS**E**: by writing the word WISE and looking at the first and last letters, that reminds us that West is to the left and East is to the right.

To continue building a compass rose, the next step is to add the diagonal lines across each of the four zones. This can be done easily by using a long ruler to join the opposite corners of the worksheet, making sure to pass through the centre of the cross. Then it's a matter of naming the four directions, which is straightforward if the four main directions are named correctly: Northeast (NE), Southeast (SE), Southwest (SW), and Northwest (NW).



Next, to continue working with the **basics of geography**, we can use outline maps of your country or region, and draw the compass rose directions across them as shown here. Eventually, we can add features like mountains and rivers, and colour the rivers and coastlines. On this framework with the compass rose overlaid it is easier to place different geographical elements. This exercise can be taken as far as is needed, depending on how much time we have and the goals and needs of a particular set of students.

Understanding the solar system

We often need to explain why it is that we say the sun rises and sets, when it's actually the earth that moves round the sun. We can use a physical experience first of all to understand the rotation of the earth relative to the sun.

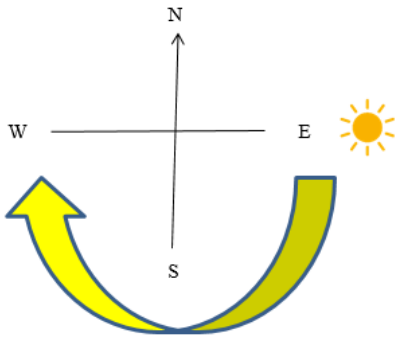
Have someone play the part of planet earth and stand in front of a large ball (or another child) which represents the sun. To understand how days and nights work, have them turn around on the spot. Every time they get to see the ball, they should say "Good morning! The sun is rising", and just as they are about to turn their back on the ball they should say "Good night! The sun is setting". Remind them that the earth takes 24 hours for each of its turns.

Next, have them turn around on the spot while slowly going around the ball in a wide circle. Ask them, or explain to them, what we call the length of this long cycle (a year), and how many times the earth turns on the spot during this cycle (about 365). For the purposes of Thinking experienced through body movement this is as far as this exercise needs to go, but this topic can of course be developed much further: the way the axis of rotation of the earth is tilted, which gives us the seasons, for example, and the elliptical orbit of the earth, so that it is sometimes nearer the sun and sometimes further away; *etc*.

To transfer this understanding from the space around us to a sheet of paper, we can make use of the cardinal points from the previous exercise, and map the apparent movement of the sun onto them with the following little recitation:

The sun rises in the east,
It moves round to the south at midday,
It sets in the west,
And it never goes into the north.

Use a felt pen or highlighter, and while saying the recitation as above draw the movement of the sun from morning to night onto the paper. This should produce a circular path looking a bit like the markings on a sundial – explain why this is.



With a globe, we can point out where the equator is, and our own position on the globe, and then explain why it is that the sun appears to move round to the south and never goes into the north (of course, this is reversed if in the southern hemisphere).

Matching up the cardinal points in space around us and on a map

One of the problems many people encounter, and which can cause big arguments between the driver and the navigator during a car journey, is working out whether we need to turn left or turn right: do we need to turn the map around?

Experience using a marked mat

This experience can also be developed in several ways, and it makes use of a marked mat or carpet: the mark can either be drawn at one edge of the mat or a marker placed along one edge. The mark acts as an anchor point – someone can lie down on the mat and place their head on the mark.

First of all, have someone stand in front of the mat, facing towards it. Point out that the front of the mat stays fixed, whether you are facing towards the mat or away from it: the front is determined by the mark being at the top edge of the mat. The aim is to make a connection between the spatial terms “in front of” and “behind” the mat and “the bottom” and “the top” of a map.

The first step is to explain that the mat is going to represent a map of wherever you are. As in the "Compass rose" exercises, have them say "North is at the top", then go to the "north" of the carpet (where the mark is). Then they should continue with the "Compass rose" recitation of the directions, moving to the correct part of the mat each time. During this part of the exercise, they should NOT turn around and instead just walk carefully forwards or backwards, left or right, to reach the appropriate part of the mat.

Next, we can introduce some items that are characteristic of the different directions and the regions that are found there. For example, for a group meeting in the middle of England we might put West Country apples on the "west" side, Scottish haggis to the north, Maldon Bay oysters to the east, and a Cornish pasty to the south. Pick appropriate items that the group can recognise based on wherever you are: for example, in the USA we might put some Hawai'ian pineapples to the west, some Canadian poutine to the north, New England clams to the east, and Mexican tacos to the south.

Now we can direct someone to one of these items. For example, "go and eat some apples" (or pineapple, or whatever). Then they should turn around and say what they are eating: if they are in the place where the apples are, they are still eating apples even now they have turned around. The key point is that the cardinal points, just like the apples and other items, stay fixed. We say that the west, and the apples, are to the left and the east, and the oysters, are to the right ONLY when we are facing towards the map (or the mat). It can come as quite a relief to some people when they realise that north is nearly always at the top of printed maps!

Another useful skill to work on is that of locating the cardinal points in the space around you based only on the position of the sun. If the sun comes out, you can note the direction of the sun in the room, or by taking the group outside, and then imagine yourself at the centre of the compass rose. If it's the morning, you'll need to stand with the sun, which is in the east, over to your right, so that west is to the left, and then north is ahead of you and south is behind you. If it's nearer to midday, you'll need to turn your back on the sun, which is in the south behind you. This again leads to the connection that "north" lies ahead of us, and it is at the top of a compass rose.

Time and clocks

Before we consider clocks, an important starting point is to explain that the movement of the sun through the sky gave rise to the sundial, and then to the clock face. The shadow cast by a sundial tracks the movement of the sun throughout the day. This then provided the inspiration for the hands of a clock which show the time throughout the whole day, following the same direction of movement.

With younger children, we can use a sheet of paper folded into four then placed flat so that we can mark a cross, and we can then add the main hours at the ends of those lines: 12 at the top, 3 to the right, 6 at the bottom, and 9 to the left. Then we can locate the quarters of an hour, *i.e.*, 15 minutes.

Body experience: act out the movement of the big hand of a clock, just as we did for the "experience using the arms in a vertical plane". Call out the quarter hours as they are reached: start at 12 o'clock, then quarter past 12, half past 12, *etc*. This is a useful way to understand the concept of "quarter to", which is increasingly unfamiliar for children who might only have seen digital clock displays.

In order to proceed with exploring the clock face, we will need to work on the notions of angles and fractions.

Expanding our thinking: linking up different concepts

The same shape in the space around us can help with understanding several different abstract concepts. By establishing the notion of the whole, we can then understand different ways to subdivide that for time, distance, weight, volume, *etc*.

In this way, the starting point of the clock face enables us to mark out the twelve hours, but also the 360° for measuring angles, halves, thirds, and quarter fractions, four quarters of the hour, and the compass rose for geographical orientation.

As a first step, the following exercise uses the eight-point compass rose we developed before and expands the thinking behind it so that we can measure angles based on the eight eighths it shows. Cécile Patin also extended this exercise to get further answers that relate angles to the body

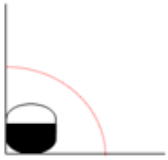
zones and the cardinal directions. This exercise enables study and understanding of the size of basic angles in degrees, something which isn't usually covered in class until later in primary school.

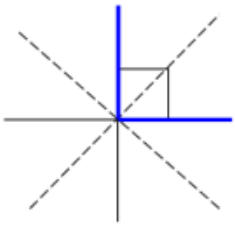
Right angles

Recall that when we used the four-zone game to explore the space around us with our arms, we divided the space into four zones and gave them the following names:

Front left zone	Front right zone
Back left zone	Back right zone

Form a **right angle** with the arms, and then transfer this to a compass rose diagram.



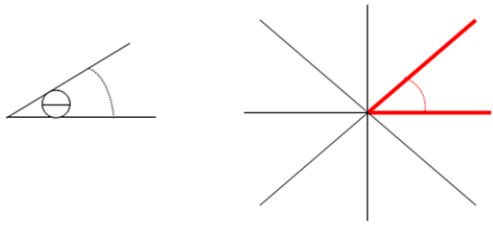


While holding their arms at the correct angle, each participant should then play a guessing game, trying to answer some questions about the angle and its orientation:

– Which body zone does it correspond to?
  For example, the right angle shown above corresponds to the **front right** zone.
– What is the size of the angle in degrees?
  The above angle is **90 degrees** (90°).
– What fraction of a full turn is it?
  My right angle represents **one quarter** of a full turn; the remainder is three quarters of a turn.
– What region on a compass rose is this?
  On a compass rose, the geographic region is **north-east** (NE).

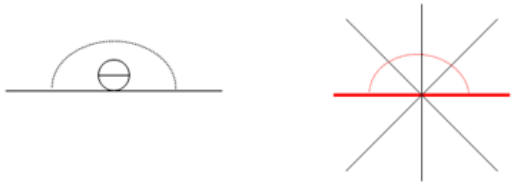
This same guessing game is then played with acute angles and straight angles. In each case, it is the participant who should try to come up with the answers each time.

Acute angles



- This acute angle doesn't correspond to a particular body zone.
- The angle is 90° ÷ 2, *i.e.,* **45°**.
- The angle represents **one eighth** of a full turn; the remainder is seven eighths of a turn.
- On a compass rose, the geographic region is **east-north-east** (ENE).

Straight angles



- This straight angle corresponds to the **front** zone.
- The angle is 90° × 2, *i.e.* **180°**.
- The angle represents **one half** of a full turn; the remainder is another half of a turn.
- On a compass rose, the geographic region is **north** (N).

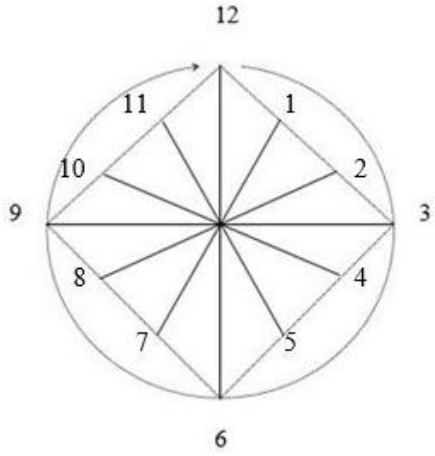
The straight angle is experienced in the horizontal space. Some participants might constrain themselves to considering the front right zone and the front left zone, and will need to be encouraged to move forward from this reference point and consider the whole of the front zone.

Constructing a clock face

The journey of investigation can continue for older children with work on the clock face, representing a division into twelve twelfths.

For children to construct clock faces and similar diagrams, Cécile Patin used school exercise books with Seyes grid ("French ruled") paper, but any squared paper or graph paper can similarly be used. This makes for useful exercises in using a ruler properly and drawing neat diagonal lines joining grid corners with accuracy so that they cross at the right places. We quite

often use the following basic diagram as a basis for the exercises in breaking down mental barriers, because the division into twelve gives a great number of useful possibilities. This basic shape can be drawn by turning the paper through 45° and using a three-by-three set of grid squares (or multiples, for a larger diagram), and joining the opposite corners carefully: this is not quite trigonometrically exact, but it's very close, and is easy to draw, and serves well as a basis for practising and achieving the goals we have here.



Breaking down mental barriers

Now we are going to come up with several different ways to describe a part of the circle, each time starting from a different concept. For example, we could mark out 180° on the clock face shown above, then use that to find out what kind of angle it is, what geographic region it is, what body zone it encompasses, what fraction of a full turn it represents, and what time it would indicate if they were clock hands.

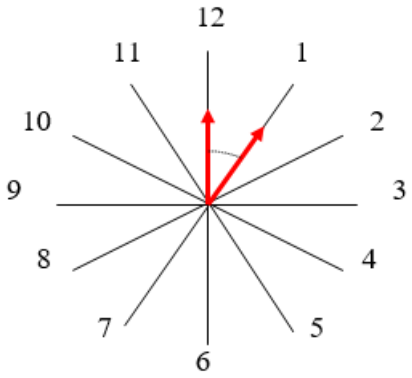
Then we can do a similar problem but start with the fraction, or with the number of minutes, to explore each of these concepts.

Achieving these various interpretations relating to different concepts (geographical, mathematical, temporal, spatial) means breaking down mental barriers to see how these can all be equivalent.

Suppose we start with a time interval of 5 minutes. This represents an **acute** angle and a fraction of **1/12**, and is too small to be a geographic region on the compass rose or a body zone.

To work out what angle in degrees corresponds to 5 minutes, there is a bit of work to do. A right angle is 90°, and this represents 15 minutes. The angle of 5 minutes is therefore one third of the right angle, which is 30° (see the diagram below). In this way, we can convert between minutes on the clock face and degrees of angle by using the proportions. For example, for fun we can calculate the number of minutes represented by an angle of any particular number of degrees.

This is an exercise in calculating **proportions**.



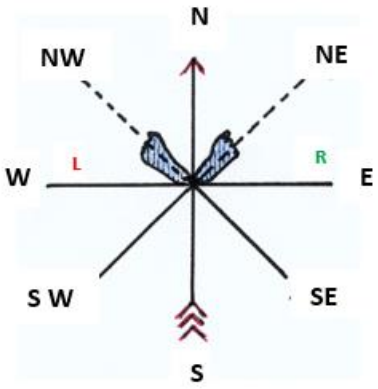
Other examples of starting points could be a fraction of one third, the south-west geographic region, a time interval of 35 minutes (which make a reflex angle, as opposed to 25 minutes which make an obtuse angle). In a group, it's important to ensure that each participant manages to succeed with a form of the problem.

6. MENTAL ORIENTATION ON A STAR EXCURSION DIAGRAM

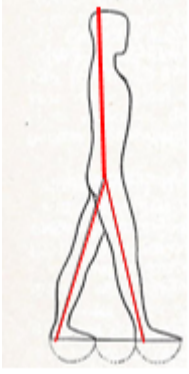
At her school for corrective gymnastics, Cécile Patin learned to teach children "good posture". We have already seen the importance of footprint positions and placing the feet on star alignment marks in the chapter "**Developing awareness of the parts of your body**". Dr Tissié used a pattern of radiating lines marked on the floor in order to study various standing positions related to good posture, and this is often termed a "star excursion diagram" (also see "l'Étoile du Docteur Tissié" in "La Gymnastique Corrective" by Dr Balland and Louis Grozelier, Amedee Legrand & Cie, 1962). This makes a useful starting point for exercises exploring the space around us: we adopt a conventional "north", regardless of what the actual orientation of the room is, just as we do when working on paper.

Exploration of star excursion positions

The student should stand at the centre of the star diagram, in a standard gymnastic starting position: heels together, with their backs against the horizontal line as if it's a wall, with the feet angled apart so that they lie on the diagonal lines NW and NE.



This exercise involves taking a split stance. One foot stays at the starting point: that is the stance foot. The other foot moves forward as if you're taking a step: this is the moving foot. Recall that when someone is standing upright, their body axis is a vertical straight line. When they take a step, that line splits: one step makes a split stance. Note that the stance foot and the moving foot should both keep their starting orientations: NW for the left foot and NE for the right foot.

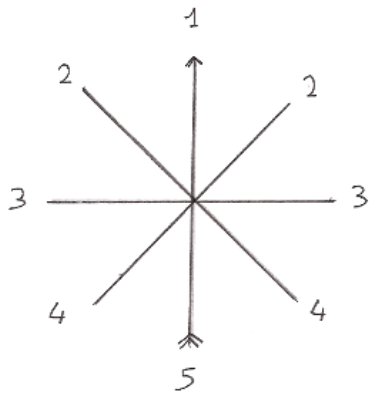


The orientation of each foot is the guarantee of stability. It can be difficult to maintain it when moving from one leg to the other. This might seem simple, but in practice there are several difficulties. Some children will muddle the line of orientation of the moving foot with the direction line they are moving it on. To train them in this, test their resistance by pushing them gently: in order to remain stable, they must place their feet correctly, their pelvis should not turn, and their face should always face forward (N).

Keeping the correct orientation, NW for the left foot and NE for the right foot, involves creating a **mental track in circumduction**.

To prepare for understanding this exploration, we have numbered each direction line from 1 to 5. The student positions their feet, and should then verbalise the split stance they have made. For example, *split diagonally backwards right*. They should make the five split stances with one foot, and then with the other, each time returning to the starting point between stances.

1- Split FORWARDS
2- Split DIAGONALLY FORWARDS
3- Split SIDEWAYS
4- Split DIAGONALLY BACKWARDS
5- SPLIT BACKWARDS



For people who get really stuck, it can help to speak the full process of making the split stance. Beginning each time from the starting position, make the split stance while saying out loud:

1. I take one step with my right foot along the Forwards line: that's a *split forwards right*.
2. I take one step with my right foot along the Diagonally Forwards line: that's a *split Diagonally Forwards Right*.

3. I take one step with my right foot along the sideways line: that's a *split Sideways Right*.
4. I take one step with my right foot along the Diagonally Backwards line: that's a *split Diagonally Backwards Right*.
5. I take one step with my right foot along the backwards line: that's a *split Backwards Right*.

Perseverance pays, and then moving on to instructing and checking can help consolidate the concentration needed to be successful with this physical and geometric exercise: they should set the task and check that it is carried out correctly. When it has been fully mastered, the person giving the instruction should not have to imitate the person doing the action in order to check that they have done it correctly. This is the final part of the technical manual of the Cécile Patin method and the success each person can achieve with it. To check that someone else is doing the exercise correctly means having the whole of the star excursion diagram and the possible split stances in one's own min

Graphical representation of the split positions

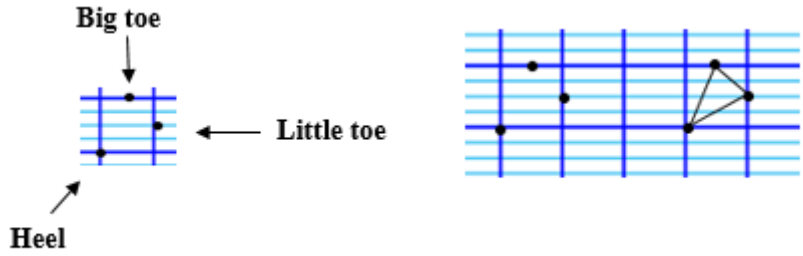
To move to an abstract form on paper, the split stances experienced physically will become drawn stances on paper. As before, Cécile used the Seyes grid ("French ruled") paper, but any squared paper or graph paper should be equally suitable. If the full details of the drawing are being covered, it is important that the person learns to draw the representation accurately for themselves. This is a hard piece of work which takes several stages to complete, with frequent referring back to the physical experience described above. Mastering this graphical representation is particularly important for older children. For younger children, the task can be simplified by using triangular stickers.

→ Learn to draw left and right feet along one line of the squared paper.

First, take note of the following key features of a footprint: the heel, the big toe, and the little toe. These will be the points we draw to represent the position of a foot.

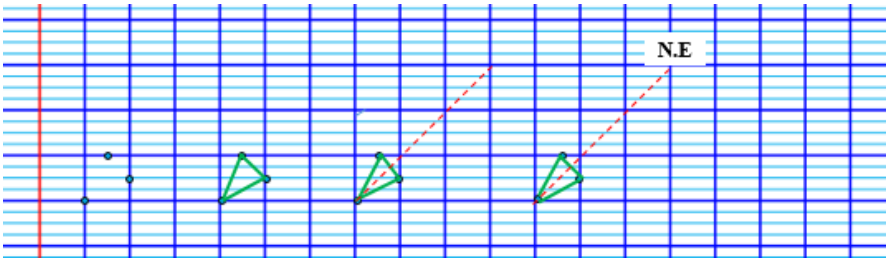
For a right foot:

- Choose a square of the squared paper and draw a dot at the bottom left corner for the heel.
- Draw a second dot in the middle of the horizontal line across the top of the square for the big toe.
- Draw a third dot in the middle of the vertical line up the right side of the square for the little toe.
- Join up the three points, making a triangular "duck foot" representation.

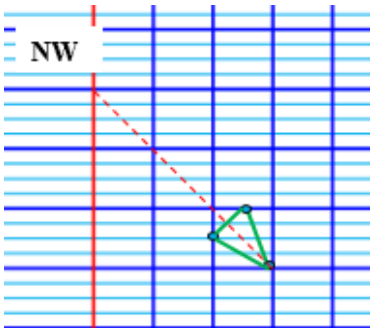


If someone is having difficulty putting this together, have them draw out several copies of a right foot, saying the names of each part as they do it, and making use of different colours for the drawing:

- Say "Heel — Big toe — Little toe" while marking the three points in **blue**;
- Join up the three points in **green**;
- Add the line of orientation of the foot as a red dotted line stretching diagonally across three squares;
- Mark the direction (NE) in **black**.



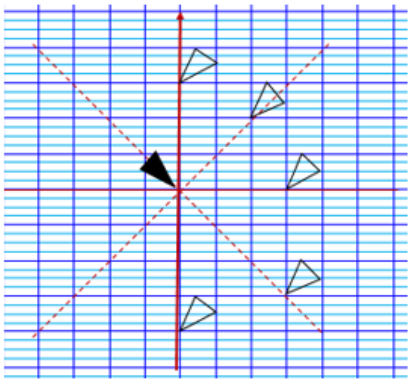
Now do the same thing for drawing left feet.



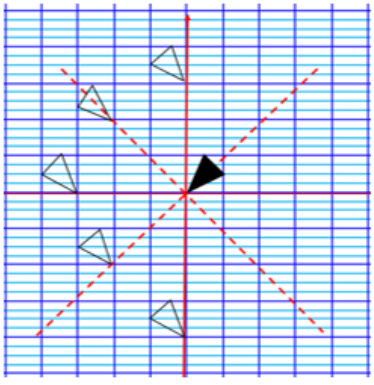
→ Set out the split stances graphically on a star excursion diagram.

Only move on to drawing the stance foot and moving foot for the split stances onto a star excursion diagram once someone is confident with drawing a left foot and a right foot into a square neatly. For the split stances where the left foot stays at the starting point, draw the left foot filled in and draw the right foot (which moves to each of the split stances) without filling it in and without adding the line of orientation.

Split stances right



Split stances left



→ Name the split stances, and write the names in the diagram.

To simplify the writing a bit, we can use abbreviations for the different split stances. For example,

Write the split ***F***orwards ***R***ight as:	***F.R.***
Write the split ***D***iagonally ***F***orwards ***R***ight as:	***D.F.R.***
Write the split ***S***ideways ***R***ight as:	***S.R.***
Write the split ***D***iagonally ***B***ackwards ***R***ight as:	***D.B.R.***
Write the split ***B***ackwards ***R***ight as:	***B.R.***

Mastering the graphical representation with an aerial view

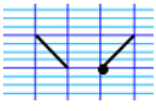
Once these drawings can be produced without mistakes, we can move on to transferring this knowledge, abandoning the detail drawing of each foot, and making a simpler drawing consisting entirely of lines. Simplifying this graphical representation marks a further level of abstraction, and demonstrates our ability to take an "aerial view" of the knowledge. This is like a person who has been walking in a forest and exploring various pathways now is lifted up into the air like a helicopter or a drone and can thus get an aerial view of all the paths at the same time.

For our simpler drawings, the feet will be represented just by their line of orientation, that is a diagonal line to the NW for the left foot and to the NE for the right foot. The stance foot is shown by marking a dot at the heel: this corresponds to the starting position, so the moving foot doesn't have the heel marked.

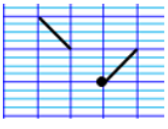
There are two exercises we can do to test familiarity with the star excursion positions. The first is to recognise the ten split stances from versions that have been drawn on a worksheet.

S.R.
Split Sideways Right

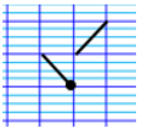
S.L.
Split Sideways Leftt



S.L.

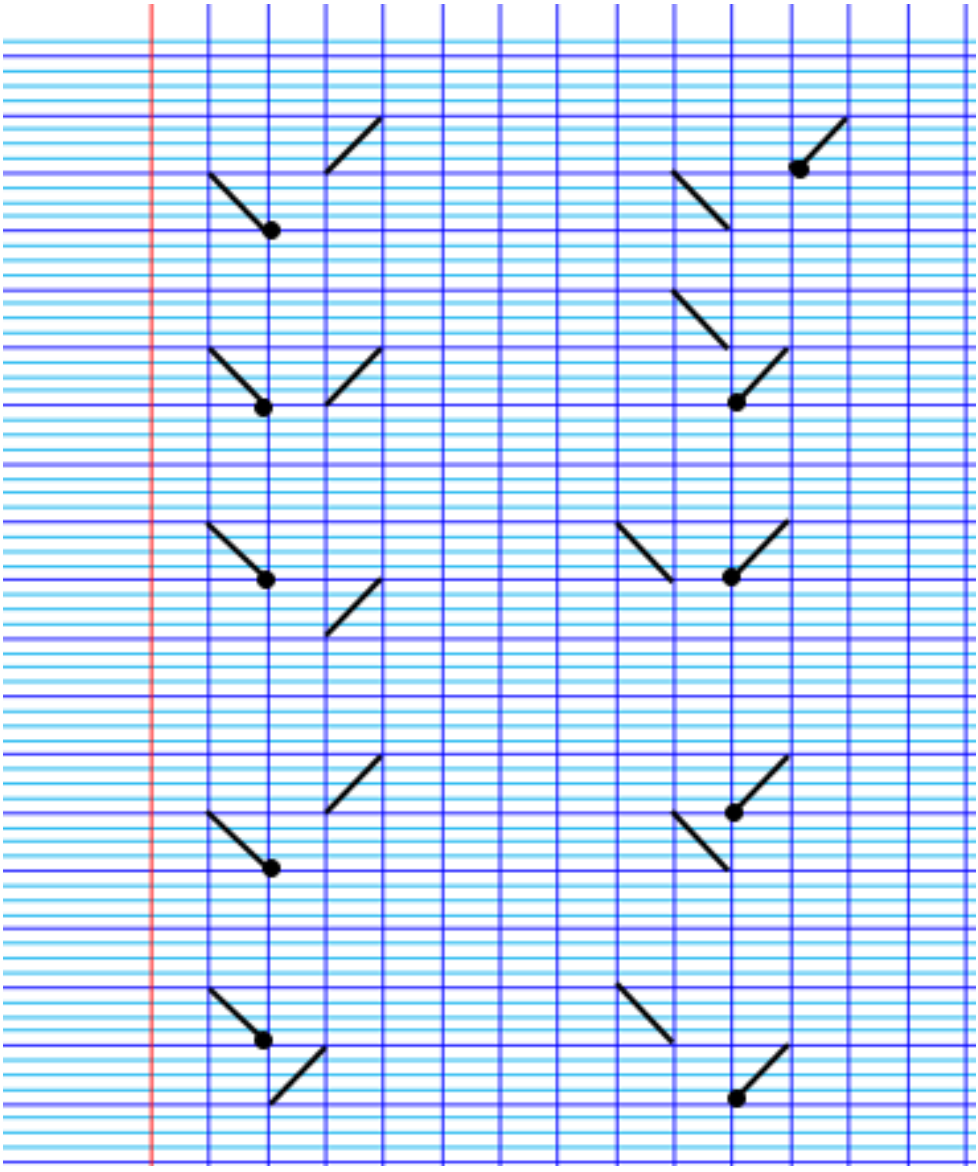


D.F.L.



F.R

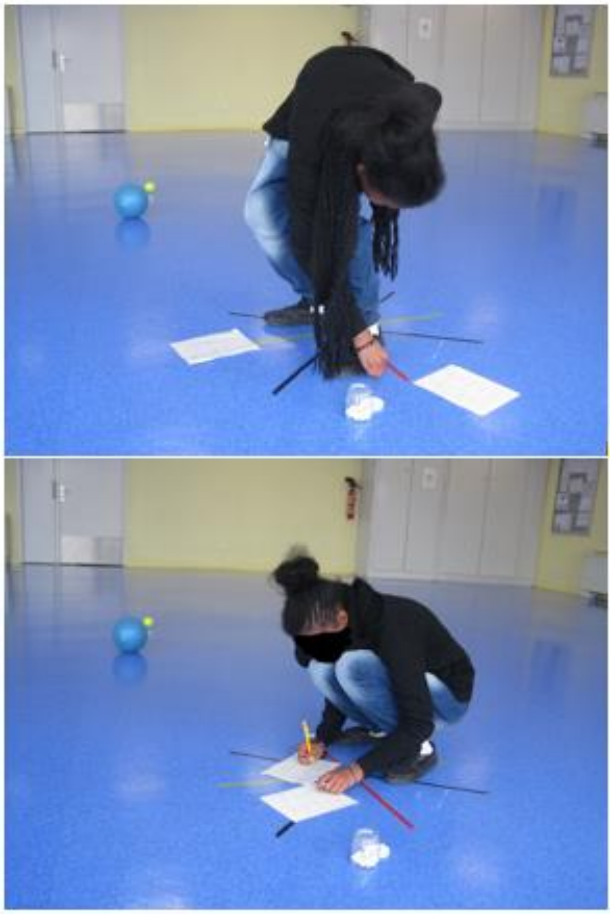
Here is a template worksheet showing the split stances to be recognised.



The second exercise is to draw the ten split stances onto squared paper: give the children a sheet of blank squared paper and get them to draw out the ten split stances:

F.R. - S.R. - D.F.R. - D.B.R. - B.R - D.B.L. - S.L. - F.L. - D.F.L. - B.L.

In this exercise, each step involves drawing the stance foot first and then drawing and orienting the moving foot appropriately based on the marked starting point. This requires careful concentration, and some children will mix up the ideas: return to the split stances experienced physically on a star excursion diagram marked on the floor as often as necessary to lock the ideas into place. Cécile Patin used to call this mode of thinking a **mental circumduction**.



CONCLUSION OF THE METHOD

The aim of this technical manual is to guide the work of thinking experienced through body movement. The objective is to help each person find their bearings and locate their "zero point" in space and in time. This reassurance can help them to understand various systems, and they can proceed to control their own body, their own mind, their own place in society, and eventually make scholastic progress. By avoiding coming unstuck, the systems they can start to master include place and time, directions, the calendar, and clock, reading and writing, mathematical reasoning, *etc*.

The technical manual of the Cécile Patin method culminates in the following observation: LEARNING TO STRUCTURE YOUR THOUGHTS IS WHAT WILL LEAD TO SUCCESS.

This is the concept that drives us. When children leave a session knowing how to build principles of thought systematically (perceiving, conceiving, acting, instructing, and checking), this means they have a basis on which to succeed at school, in family life, and socially. They have been trained to deal with problems with a step-by-step approach, setting personal goals and commitments, and checking for themselves what has been accomplished without passing judgement.

If this technical manual sometimes seems dry and formal, this shouldn't be allowed to hide the fact that working on thinking experienced through body movement is enjoyable and done in fun. Through the various exercises and games, it is experiencing the pleasure of success which the organiser is primarily working to achieve for each person. Overcoming a difficulty can be truly rewarding, just like riding a bicycle for the first time without stabiliser wheels, or managing to windsurf for the first time.

drawing by Martine Deneuville

FROM THE TEACHER TO THE METHOD

CHAPTER 1

"LIFE BEGINS AT THE END OF YOUR COMFORT ZONE"

Getting to work is often a challenge. What with horrendous traffic jams and unexpected transport strikes, the time for the journey can be doubled, ruining your day, especially if bad weather is added to the mix. At the beginning of Cécile's professional life, she didn't waste time or energy on such considerations. She preferred to ride her bicycle 24km each day to a professionally challenging job rather than to waste her efforts on a more routine one nearer home. All the same, in the forties personal ambitions were often relegated to second place, especially those of a woman. She had to have a certain force of character to pursue her desires and maintain her economic independence, and what is more, in the middle of a World War in occupied France.

It was perhaps her daring, and her personal conviction that life begins outside the comfort zone, which enabled Cécile to develop her method "Thinking experienced by body movement". For the uninitiated, the meaning hidden behind this title can seem somewhat obscure. However, in order to understand it, is important to go back to the key elements in her life, her studies, and also her various forms of hands-on training, the people she met, and the obstacles which finally enabled her to progress. Before revealing the underlying "bone marrow" of Cécile Patin's Method, let us return for a while to the past, in the steps of this young woman who throughout her career was able to learn from her contact with young children and her pursuit of how best to help them.

A childhood mix of family comforts and strict upbringing

No doubt it was from her mother that Cécile inherited her way of interpreting body language, and the acute eye of a horse-trader. In the 1930s she lived with her parents in the little town of Noyon, in the Oise region of France. It is well-known for its Gothic cathedral which had been bombed in the First World War, and which was then being restored. At that time the town had a population of between just three and four thousand. Sundays were seriously boring. To pass the time, Cécile had the habit of leaning on the windowsill and observing the passers-by with

her mother, who always had some expression from her native Picardy to describe the people as they walked past. “Look at her! She’s an example of ‘Say hello to my head, my bum is coming along behind!’”, which described someone rushing head-first. Or even, “She’s standing as stiff as a turd on the edge of the pavement”, or “She thinks her backside is the entry to a big town!”

Apart from these moments of idle complicity, Cécile’s parents encouraged their children to study, at a time when schooling was only compulsory up to the age of thirteen. They were taught not to be sorry for themselves. “Mother, I’ve got a headache.” “Never mind: get off to school.” They implanted a sense of duty to be carried out faithfully. Whatever a child’s education, it leaves an indelible imprint, and the values inculcated in Cécile were very influential on her conduct, inciting her always to move forward and to encourage others. This tenacity helped her to face up to a career and a personal life which were sometimes complicated, and it later made her aware of educational problems.

Cécile was born on 19th August 1923 in Roye, in the north of France. She was the third in a family of seven — four girls: Annie, Geneviève, Cécile and Marie-Noëlle; and three boys: René, Louis, and Jacques. Her mother did not go out to work and her father was an insurance agent. Without any national health insurance or child allowances, it was hard for a large, middle-class family to pay for the education of all the other brothers and sisters. Despite this modest environment, Cécile grew up peacefully in the security of her parents’ care.

Sadly, when she was six years old, for “family reasons” and to her mother’s great sadness, she was obliged to go and join her two sisters, Geneviève and Annie, who were already living with their aunt and grandmother in Compiègne, 40 km away. This departure was a great shock to her after an early childhood which had been relatively unfettered. Far from the peaceful life to which she was accustomed, she was confronted with a strict discipline which demanded unquestioning obedience, and general good behaviour, politeness, and cleanliness. One had to be good in order not to shock other people. No messing about was allowed. Cécile and her sisters could no longer be themselves. They were stifled by social conventions, and all dreams were forbidden.

The poor child suffered this psychologically rigid education until she was 14 years old. Perhaps school gave fleeting moments of escape, but the institution was often not kind to her either. At the end of her first year of primary school she was held back a year: without any consideration for her feelings, the headmistress entered the classroom and declared, "I've come to fetch the little girl who hasn't achieved the required standard. She knows who she is. She will stand up." As no one else seemed to think this applied to them, Cécile thought it might perhaps be her, though she was not aware that her schoolwork was less satisfactory than that of her classmates. Totally uncomprehending, but now accustomed to total obedience, she stood up.

This humiliating episode could well have caused the child to accept failure, but not Cécile. She applied herself and was moved into the higher class, which comprised pupils from year 2 to year 5, and caught up to attain the level of the 'Certificat d'Études'. This diploma, which has since been abolished, certified that the child had reached the standard required at the end of the primary school cycle. She passed the certificate for the private school sector but failed the Ministry of Education exam because of a zero in dictation. After repeating the year, she failed because of an "eliminatory zero", this time in one of the arithmetical problems. The eliminatory zero is a rule by which you fail because of a zero in one vital question, even if your total score for the exam is above the pass mark.

Despite this, she was allowed to join a seventh-grade class at the Institut Notre-Dame, a private school, and to join the Latin and Greek homework groups but without attending the classes or doing any written work. The idea was that she would leave school at the end of the year. In that school she discovered algebra and geometry. These previously undiscovered subjects opened new horizons for her. She realised that up to that time she had only trudged through the history of France with its kings, its revolutions, and the First World War. This new teaching awakened her interest in studying, and her results proved it. She was entered for the "Certificat d'Études Complémentaires Privés" and came top of all the pupils in the Oise region. That same year she passed her "Certificat d'Études Secondaires". But despite her ambitions, this diploma marked the end of her schooling and so she entered into the world of work.

Working for a living

The summer of 1937 was particularly enjoyable for Cécile. As well as enjoying the fine weather, she celebrated her fourteenth birthday and had the happiness of returning to her parents' home and their peaceful existence. It had been decided beforehand that she could go to school just until year 7, which was what a lot of young girls did at that time, so she now needed to earn a living. She was apprenticed to a dressmaker. She was an adolescent with a love of the open air and a thirst for knowledge, so that sewing on press-studs and hemming garments from morning to night for a whole year, with the impression that she was learning nothing, was profoundly boring and frustrating.

She continued her apprenticeship the following year but added two new activities: she went to free shorthand and typing evening classes, organised by the council, and had supplementary private lessons with a young professional woman who prepared her for the secretarial diploma. At the end of that year, the young blond, blue-eyed girl entered professional life in an office when she was barely sixteen.

War broke out shortly afterwards, upsetting everything. 1940 saw evacuation: Cécile left her job and was posted to a farm in Normandy. There she had to buckle down to farm work, thinning out beets, harvesting cereals, and even milking the cows. Many years later, when doing her training as a masseuse, she felt the same muscular fatigue as when she had milked the cows! She couldn't help thinking then that her farming experience had been intended to prepare her for her future profession. Whether it was destiny or just the war, she benefited from this experience and learned to manage her aches and pains.

When she returned from Normandy she went back to work and combined two jobs. The first was with a clerk of the courts, typing out court proceedings or the details of disputes between neighbours. The rest of the time she had a precarious job accompanying an architect to type out his estimates, assessments of war damage and the cost of repairs. One day, while she was waiting for the architect to finish his measurements, she lay on her back and looked up at a limpid blue sky through the branches of an apple tree in bloom. She experienced a moment of pure beauty. Nothing had ever moved her like this before. She had been, as it

were, morally frozen, impermeable to all sensations. Nature was offering her all its splendour, and for the first time ever she was capable of experiencing it.

In search of professional fulfilment

Cécile did not feel fulfilled by her professional activities, as is still too often the case for some people nowadays, and she found this difficult to endure. What was more, at that time there was little choice of leisure activities for young women. Fortunately, a local branch of the 'Rayon Sportif Féminin' (RSF) opened up nearby. Up to this time, the organisation, which had been funded by 'La Fédération des Patronages Catholiques', had been reserved exclusively for young men.

The RSF offered to train all those girls and women who had obtained the Brevet Sportif Populaire. Cécile was the only one in her "patronage" (the leisure time activity group run by the Catholic church) to have taken it, and she obtained the highest grade. She was invited to join a group of women older than herself and more highly educated. This did not prevent her from qualifying as an assistant coach in the gymnastics section in August 1941, and as full coach the following year. The programme included the high jump, the 60 m sprint, 3 kg shot put, throwing a tennis ball 50 m, the long jump, rope-climbing, and parallel bars. It also included formation exercises by the class for a display at the annual festival which was the closing event after the summer competitions.
And so this 21-year-old, dynamic girl from Picardy, with her irrepressible love of the open air, chose to train as a PE teacher.

A bicycle to get launched

Once she had qualified, Cécile helped one of her former teachers, Denise Noël, by teaching one of the many classes she ran at Noyon. The section had at least 110 members. It turned out to be a complicated experience. She had to teach her peers, and it was difficult to maintain an appropriate distance. The sessions went better at Compiègne where she was required to teach 'Les Jehannes Vaillantes' who no longer had a trainer. She did supply work for several months at the school where she had been a pupil in 8th grade, before being offered a permanent post at the same school in the autumn of 1943 when she was just 22 years old.

She willingly rode her mother's bicycle to travel the 24 km to her place of work. She subsequently taught at the other four private schools in Compiègne, and at another school 12 km further away in Rethondes. These different functions entitled her to obtain a permit to buy a new bicycle, an object which was hard to come by in wartime.

As her career developed, Cécile gradually moved away from her numerous and noisy family to live in Compiègne, but her success did not stop there. She became head of the RSF gymnastics sections in the Oise region. She continued to improve her own sporting performance by doing courses in other disciplines like basketball (1946), gymnastics and rhythmics (1947), and even skiing (between 1947 and 1949). She thought she had at last discovered her vocation and was entirely satisfied with it.

A stroke of fate, for the worse… and for the better

In 1948, buoyed up by her success, the young sportswoman wanted to go farther afield and attempt the sports teacher diploma. She entered for the exam without any specific preparation, succeeding well enough in the written exams to qualify for the practical tests. She swam fast enough to pass the swimming, but sadly she failed the life-saving test. After two vain attempts, she proudly brought up the dummy victim. But a friend shouting and waving at her cried, "That's not very smart – you've left the head underwater!". The undeniable drowning of the victim meant that she had scored an eliminatory zero. Undaunted, Cécile continued all the other tests to the bitter end: gymnastics, the balance beam, throwing the discus, climbing, the high jump, the long jump, sprinting, and long-distance running.

She was reckless and more intimidated by her pupils at St Ursula's girls' school than by the sports exam. These girls came from a more affluent social class than hers. This feeling of inferiority was probably the result of time spent with her aunt, who was accustomed to saying that girls in silk stockings were admirable, leaving Cécile to feel that she was not. To impose her discipline Cécile lowered her voice, which was naturally in a higher register.

So for six hours a day she strained her voice, out of doors because there was no gymnasium, and she accompanied the girls' movements

with rhythmic singing. Soon she was reduced to just three notes, though when she was 17 she had often been asked to sing at family celebrations. Losing her voice forced her to abandon her chosen career after only seven years.

What a misfortune, when she had found her vocation and had followed it from such an early age! Life is sometimes very cruel. At only 25, in November 1948, she had to change jobs. She took a post as B.O.F. secretary ('Beurre, Oeufs, Fromage') in the Prévost company, a dairy firm in Marguy-lès-Compiègne. She had a responsible job which nowadays would be called Personal Assistant to the director. Despite this good position, Cécile was not happy in a sedentary occupation. On the wise advice of her GP, she decided to consult Dr Tarneaud, the voice specialist for the National Conservatory of Music. He had developed "La Phonéatrie", a specialist treatment for all voice problems, speaking, language and hearing, and also problems of swallowing. His consulting rooms were in the Avenue de la Grande Armée, just on the outskirts of Paris. The doctor prescribed a thermal cure for her throat.

She also followed a voice re-education programme in the course of which the laryngologist made her press her throat to feel the vibration of the sound of her voice. By moving her hands, she could detect the levels of vocal production and the result of correct voice placement. Cécile did not at first recognise the vital importance of this experience. She was used to imitating and not feeling what was required of her. At the beginning she carried out the manual detection of the levels of resonance from the chest to the head by simply obeying the physical instructions.

As well as training her voice, Cécile had to learn to place her breathing. To this end, Dr Tarneaud explained, "The voice is a wind instrument whose power comes from the chest, while the vocal cords control the sound. You have been making them vibrate without supplying the wind power". Cécile was vexed to realise that she, a PE teacher, did not even know how to breathe. The instinctive "in and out" breathing was apparently not sufficient.

The rehabilitation treatment first required being aware of the natural means used to speak, namely the palate, the teeth, and the tongue. The doctor explained that you should aim the words at the person to whom

you are speaking. She had to read aloud, chanting on one note given on the piano, chosen to suit her pathology. After ten minutes she had to chant one semitone higher, to ensure a progression in her voice production. This exercise was intended to enable her to increase her range, which was still limited to three notes. In fact, Cécile only saw the doctor three or four times. It was more for her to find out what to do by herself than to have continuing voice-training, but thanks to him she learned to use her voice wisely without lowering it, which stopped the damage she had been causing to herself. However, he did tell her that she could have sung like the famous soprano Mado Robin, adding, "Make the vibrations rise up to your head. If all speakers knew how to use their voices, there would be no more lost or broken ones." This work took her well beyond this simple re-education and led her to intimate self-knowledge.

This mishap, which seemed to her at first like a letdown, proved to be a real revelation. She had lost her voice but found herself. She went from imitation to reality, from the unconscious to the conscious. She had, up to this time, functioned like a puppet on a string, but for the first time she experienced her interior workings by her breathing, her voice, and its vibrations. It was like a kind of re-birth for Cécile, who no longer carried out her actions like a robot but with a lucid understanding of her inner workings. This enabled her later on to comprehend the problems of the children in her charge and served her well in the development of her own method for helping them.

Overworked but out of doors!

In order to pay for her first thermal treatment, at Luchon in the Pyrenees, Cécile looked for work during the school holidays. She enrolled at the UFCV (Union Française des Centres de Vacances et Loisirs) in the hope of getting a post as an assistant in a holiday centre for children. Besides earning some money, this would be a wonderful chance to put her nose out of doors! She was highly delighted to be called for an interview by Miss Léonie Bâtard, Chief Assistant for Social Affairs with the Wagons-Lits railway company. This lady had consulted the UFVC in quest of a person to manage their holiday centres. She had noticed Cécile's application and her position as departmental chief of the RSF. Convinced of Cécile's competence despite her lack of the necessary diplomas, she engaged her immediately for the month of August, and even

offered to pay for Cécile to obtain the qualifications she had not been able to afford.

In June 1949 Cécile followed this course before going to her thermal treatment in July and her new job in August. Far from a relaxing season which most people enjoy at this time of the year, Cécile was overloaded with work. She was in charge of 24 assistants who in turn were responsible for 160 children aged from 4 to 14 years old. She organised the Sunday festivities for their respective groups, the big games, and the walking trips. She accompanied the 75 participants on her bicycle, going back and forth from one end to the other of the group, and leading the traditional marching songs. After a week, as if this were not enough, she had to replace one of the assistants who had been dismissed for pedagogical incompetence.

This experience of dealing with children in a leisure activity gave Cécile the opportunity to develop a different way of teaching, which did not simply consist of controlling and being obeyed but also realising the children's need for activities while educating them about the principles of living together. This was also a chance to recognise and deal with the diversity of children coming from very different environments.

A providential compromise

In June 1949, like a kick from providence, the firm where Cécile worked as a secretary closed down, obliging her to find new employment. A casual conversation with the owner of a sports shop where she was a regular customer, gave her an idea of how she could reconcile her personal ambitions while conserving her voice and earning a living, a necessity for an unmarried woman. Her dismay and boredom at having been condemned to a stifling, sedentary lifestyle made her hope for a more dynamic activity. The shopkeeper suggested that she should meet one of his friends who had just opened a school of corrective gymnastics in Paris. Cécile was accepted despite her late application. The fact that she had recently lost her job, combined with the problems she had recently had with her voice, counted in her favour with the director.

In November 1949, Cécile entered "L'École Française de Gymnastique Éducative et Corrective" affiliated to the "Ligue Française d'Éducation Physique". The LFEP was founded in 1885 by the neuro-psychiatrist Philip Tissié, an eminent proponent of Swedish Gymnastics. He

had introduced this discipline in France, and it advocated symmetrical movements. At the time of the 1789 Revolution, the French nobles who had fled to Sweden made their living by teaching fencing. The Swedish doctors and instructors observed that the one-sided movements led to a certain degree of physical deformity, so they promoted symmetrical exercises which helped balance and posture. The LFEP was affiliated to the ILEP, the International League for Physical Education. All these leagues may seem confusing, but the essential aim of all the members was a methodical education, both physical and moral, to remedy poor posture.

The school which Cécile joined was the teaching arm of the LFEP. The school was run by the president and scientific director Dr Henri Balland and four other eminent members, including Maurice Colette, a PE teacher for the Paris primary schools. At that time, the French national curriculum included PE only in the secondary school curriculum, but Paris put it also in the primary curriculum and trained their own teachers for this discipline.

Maurice Colette was the head of the school, and he also created the term "Mouvement Analytique Décompensé" (analytical non-compensated movement). He later became editor of the publication "La Gymnastique Volontaire" and president of la Fédération Française d'Éducation Physique et de Gymnastique Volontaire (*NB* a fusion of the LFGE and the FFEP).

Louis Grozelier was also a PE teacher in Paris, and co-author with Dr Balland of "Corrective Gymnastics", a book published in 1946. He taught corrective gymnastics and often said "Corrective gym is educational gym." In fact, the title of his book used "Corrective Gymnastics" for commercial reasons.

George Coëvoët was a "masseur gymnaste médical", known nowadays as a sports physiotherapist, and he was a member of the FFGEGV, where he was successively General Secretary and then Federal Delegate. He taught theory, history, anatomy, and pedagogy. So Cécile could benefit from courses on history of physical education throughout the world, with their different practices and schools of thought, right up to the Swedish School.

Finally, Maurice Diaquenaud, also a physiotherapist, taught the theory and practice of massage, and gave introductory classes in "vertébrothérapie" and manual techniques.

The school sought to teach anyone interested in the welfare of Man: gymnasts, teachers, firemen, sports instructors, educators, remedial gymnasts, *etc*. The teaching was methodical, detailed, analytical, and it aimed to teach progressively how Man functions, his presence and the virility of his comportment, the pride and beauty of his style, and also to teach preventive medicine through hygiene and static posture. The theory was first introduced by a detailed chronological study, and written stage by stage on the blackboard. This highly structured method enabled Cécile to acquire a whole new field of knowledge far beyond anything she had previously imagined.

At the same time, she resumed her post as PE teacher in two of the private schools in Senlis where she had taught previously. She also taught some groups in the Rayon Sportif Féminin. One evening, when travelling on the 11pm Compiègne train after her lessons in Paris, she noticed a woman sitting opposite her reading a book on anatomy. She recognised her immediately as Anne-Lise Chabas, a masseuse-therapist in Compiègne. This woman had sometime previously requested that Cécile should exempt from her lessons a pupil being treated for a problem with his vertebrae. Cécile introduced herself and a discussion ensued. She explained her difficulties, and the course that she was following to obtain a diploma in educative, corrective and orthopaedic gymnastics. The woman advised her to follow it by taking the National Diploma in Physiotherapy which had been recently created in 1946. This would enable her to propose treatment reimbursed by the Social Security. “You have the capacity to give treatment, but not the right to sign the Social Security forms. Find someone influential to back your application to enter the second year of studies. Your school can certify that you have completed the first year”.

Conscientious pupil as she was, Cécile obtained the diploma of Master in Corrective Gymnastics in 1950. Following Anne-Lise Chabas’s advice she looked for an important person to help her. She recalled that some time previously her father had chauffeured on a voluntary basis a Deputy (Member of Parliament) who was now a government minister, during his election campaign. He certainly owed them a good turn! Highly motivated, she contacted him in the hope that he had not forgotten her father’s support. The Deputy instantly recognised her and contacted the École Nationale d’Orthopédie et de Massage in the Rue Cujas in Paris, which was directed by Dr Boris Dolto. After a short oral exam

with Dr Giselbrecht, she was given the accreditation necessary to begin the second-year studies, as Anne-Lise Chabas had predicted.

"Every soldier carries a field marshal's baton in his knapsack."

Cécile had no time to get bored. The following summer she went for a second time to take a thermal cure for her voice. She followed a course to become qualified as a director of children's summer camps and obtained the diploma. At the same time, she continued working for the Wagon-Lits Company holiday camps.

In October she started at her new school and moved to live in Paris for practical reasons. The rest of the year proved to be equally busy. Lessons were from 4 pm to 7 pm, except on Wednesdays, and the hospital experience sessions were on Tuesday, Thursday and Saturday mornings. Like all the other students, she was given one metro ticket, a meal and one franc per day.

To add to this meagre livelihood, Cécile made use of her spare time to earn enough money to pay her bills. She was on dinner duty at a girls' hostel in the rue Laborde. She gave a few sessions of corrective gymnastics for the town council of Chatillon-sous-Bagneux at a boys' primary school in the Saint Séverin district. She gave individual help for girls at a Red Cross clinic in the Rue de Picpus. On Wednesdays she went to teach gym at the Anne-Marie Jouvehay School for girls in Senlis and also gave some individual remedial gym lessons.

In this school she used to share her meals with Geneviève Nigeon, a primary school teacher. On Saturdays she worked from 2 to 4 pm at the Institut Maintenon in Compiègne. And since there was still a small gap in her hyper-active timetable, she found enough energy to join UFCV and do three hours of folk dancing. She also helped Louis Grozelier with the secretarial work for the LFEC Île-de-France committee.

This full timetable demanded a lot of travelling and Cécile willingly used her bicycle to reduce expenses. Cycling up the Boulevard Saint-Michel was no easy matter and the exercise proved painful! Her landlady was not surprised that she found it difficult: "They used to put an extra horse on the stagecoach!", she would tell Cécile.

Cécile's multifarious experiences gave her an extensive field of knowledge. During the holidays she trained the assistants and directors at the UFCV for the sporting activities in the summer camps. This led to the same work with the Sisters of the Order of Saint Vincent de Paul who were not allowed to have male instructors. Despite their great headdresses and voluminous robes, they ended up doing movements which amused them greatly under the direction of a teacher who would not let anything stop her – even if that meant that the headdresses sometimes ended up on the floor!

At the École Française de Gymnastique Éducative et Corrective there was a warm and friendly family atmosphere, with respect between the adult students and the professionals. However, at the École Française d'Orthopédie et de Massage the students were young and not yet working professionally. They came mainly from a bourgeois background and their parents paid for their studies. Cécile did not like their pretentiousness, nor the schoolroom atmosphere of the classes. Her impression was confirmed when she could find only one student willing to lend Cécile her lesson notes when she wanted to catch up after being absent. She experienced the same impression she had felt when she had lost her voice teaching the young ladies of Saint Ursula's school. She felt that she was considered inferior to them because of her humble origins and early departure from full-time education. Faced with these fellow students who had successfully completed their secondary school studies, Cécile's sense of inferiority prevented her from giving in any of her work.

This complex, which was as unjustified as were the pretentions of her fellow students, made Cécile even more worthy of merit — she purchased a copy of the Garner Medical Glossary to make up for her lack of knowledge concerning the Greek and Latin at the origin of most medical terminology.

The first term was hard. Cécile did her utmost to concentrate on the lectures and took copious notes. Fortunately, the Christmas holidays gave her an opportunity to step back and realise that she really was up to the required level. Her only difficulties lay in learning detailed anatomy which was a very particular area. For example, the student could be confronted with a description such as: "This ligament is placed in the

higher third of the postero-external edge of the...” She found it impossible to attain the mental agility necessary to be able to understand such language. She managed by using the diagrams drawn by Claude Monod and Bernard Duhamel (still in use to this day) and colouring the path of every muscle and its tendons, using a different colour for each one.

Little by little the subject became more familiar to her, but she never felt able to give in any of her work to Dr Briand, her teacher. Having skipped the first year, she did not know sufficient medical terminology to be able to reply correctly. However, she did not really need to attend the course in corrective gymnastics given by Mr Paruite because of the practical training she had received at the EFGEC. Despite this she was anxious to know about this teaching method and she decided to follow his lessons assiduously during the last term before the final exam. It was a wise decision.

On the day of the exam, she discovered that the examiner was none other than Mr Paruite himself! Her question, chosen at random from the list, was about “l’attitude cypho-lortodique souple” which to the uninitiated means bad general posture. Cécile demonstrated the teacher’s method of treatment without hesitation. On the way out of the exam room, Mr Paruite said “I’m pestering you with my questions, but the truth is you know more than I do!” This proved that he recognised the value of the EFGEC methods which Cécile had mastered perfectly.
She started the third term with a lighter heart, even though she was convinced that she would fail the final exam and need to re-sit the year, which would be financially difficult for her. The value of massage physiotherapy and the extent to which it could be applied sharpened her intellectual curiosity and her desire for thorough knowledge. She was not content with superficiality.

To everyone’s surprise, she passed her final exam in 1951 with a score of 129. The pass mark was 130 but she was accepted because, unlike other students with the same score, she had no zeros in any subject. Cécile had convinced everyone in her circle at school that she was probably going to fail. There had been no evaluation of her work because she had never given in anything to be marked, and this no doubt added to the general incredulity. The Head Teacher, Mrs Kopf, said, when she announced the results, “Whatever did you put your foot in on

the way to the exam?" Another disappointed pupil, who had spent the year playing cards in the local café, said "Goodness, fancy you passing!"

Cécile's innocent audacity had paid off; her work and her persistence had prevailed, in spite of her lack of self-confidence, her pecuniary, social, and cultural difficulties. Her fourth-grade teacher (CM1) had quoted Napoleon's famous saying, "Every soldier carries a field marshal's baton in his knapsack", and it had remained firmly fixed in Cécile's memory.

Two are better than one

All human beings need to slow down at some point. If they don't, their bodies will remind them to do so. Cécile undertook two successive five-week sessions as organiser of a summer camp. At the end of the season, she lost patience with some unruly children, and got so angry with them that she herself realised she had gone too far. She finally admitted this to the director, who immediately proposed to have her replaced for the final festivities for which she had already made detailed plans. She was so exhausted that she cried for three hours non-stop and was unable to work the following day.

In October she began a year's work as a physiotherapist with Miss Gaultier, a gymnast and medical masseur in Paris. This lady also owned a beauty salon giving facials, manicures, pedicures, make-up, and herbal treatments. Cécile often suffered from sore throats, and she benefited from her manager's knowledge of herbal treatments. Following that lady's good advice, she drank infusions of Erysimum, known for its stimulating properties in treating voice loss and hoarseness. This natural remedy gave her instant relief. But after a while, the emanations of all these beauty treatments and herbal remedies exacerbated her breathing problems.

Cécile had difficulty breathing when she stayed shut in the cellar to do the inventory. It was obvious that a sedentary occupation in a confined space was not suitable for her state of health. "Young lady, you must go and have a change of air", advised Mr Grozelier. So, at Easter, she decided to visit Geneviève Nigeon, now Mrs Marguerie, her primary teacher friend from Senlis. Cécile had not been able to go to their wedding. Roger Marguerie had taught in St Vincent, but he had found an-

other job which paid better than that of a teacher working for the Ministry of Education. Cécile arrived carrying a teddy bear as a gift for their first baby, Elizabeth. She had been invited for lunch.

Another guest was Claude Patin, Roger's former colleague and interim godfather to Elizabeth. Cécile did not yet know that this attractive young man was soon to become her husband. As time passed, they became very close. At her youngest brother Jacques' wedding in 1952 she introduced her handsome suitor to her family. After the insistent questioning of her elderly aunts, she decided to have her future marriage to Claude announced by the Master of Ceremonies. The following month she had an appendix operation, and she took advantage of the convalescent period to take another thermal cure for her voice at Luchon.

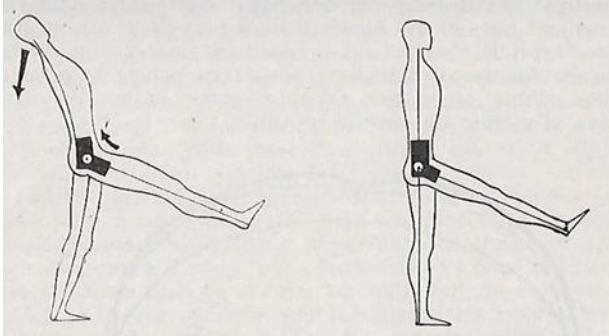
She and Claude became engaged in September, and they married in December of the same year, 1952. Claude was a teacher in a private Catholic school, so the religious ceremony was free of charge. It took place in the prestigious Senlis cathedral with its magnificent organ, and a red carpet which stretched from the entrance to the altar. As they couldn't afford to pay for the printing and sending out of wedding invitations, only Cécile's family, fortunately numerous, was present, but they were not sufficient to fill the cathedral. Claude, an orphan, had no one, so the nearly empty edifice was even more impressive.

At the beginning of 1953 the young newly-weds moved to Senlis to live in a one-room flat on the school premises, accommodation provided for teachers. They shared the building with another couple, both teachers. Normally the teachers left this accommodation and the school when they married, in search of a better-paid job. However, it was convenient for Cécile to take the bus to Paris where she could have several hours' work teaching corrective gymnastics at the centre where Mr Grozelier taught PE in Bagneux, and later in Saint Séverin. She also had a little work during the school holidays at the Union Française pour les Colonies de Vacances. In the summer, she and Claude took part in her last summer camp for the Wagons-Lits. She was expecting a baby for the following January. It was Aline, the first of her three children. She also stopped teaching at the UFCV. As that period of her life came to an end, Cécile moved on, enriched by her basic knowledge which was continually increased.

The following year, Claude resumed his post in Senlis while looking for another position. He was advised by friends to apply for a housemaster's job at a boarding school in Pontoise. This post would enable the couple to be housed on the premises. The town was nearer Paris and had better public transport. Claude could teach German and also continue his studies at the faculty.

In August the couple moved to Pontoise where they settled permanently. Claude began his career teaching a holiday course at the Catholic school of St Martin de France and assisting the man in charge of the boarders in two houses, with forty in one and thirty in the other. The following year Claude took sole charge of one of these groups and occupied this post for twenty years.

The headmaster noticed the young wife's experience as head of summer camps, and also as a masseur/physiotherapist, and he entrusted to her several of the borders who needed spinal therapy, thus enabling them to be treated without leaving the school premises.
One of these pupils, a particularly passive boy, was dysfunctional: his mind would wander off and his body would perform movements automatically. He did not concentrate on what he was doing, and he was unaware of the capacities of his own body. To the young therapist's despair, he failed to do even the simplest exercise during the first few sessions. This exercise required him to "break" the alignment of his body. The boy could not lift one leg without leaning his trunk backwards. He was unaware of how his body worked. For him his lower limbs were linked rigidly to his trunk.



Compensé, vu par HÉBERT.
Pas de travail dorsal.

Non compensé, réel.
Travail dorsal intense.

The drawing is taken from “Corrective Gymnastics” by Dr Balland and Louis Grozelier

It was only by touching his body with his fingertips and feeling the articulation of his hip that he was able to make the movement properly. Although he had managed to analyse and execute simple instructions, his capacity to concentrate remained feeble and several more sessions were needed to work on this. Cécile found it difficult to evaluate progress and felt lost as to how to deal with the complexity of such a case. She couldn’t come to terms with the idea that only his analytic approach would help him succeed at school. It is at this point that Cécile realised that knowledge of one’s body, its segments and its hinges, is absolutely vital.

In addition to the sessions with pupils from the school, Cécile started working with Dr Mottin. After an interview with this doctor who specialised in physical medicine (and rehabilitation), Cécile was offered the job of physical therapist (remedial gymnastics) attending people at their homes. Dr Mottin himself didn’t have enough time for these special needs and Cécile was delighted to continue practising her knowledge as a massage therapist. She could cope with these occasional visits as well as spending time with her growing family; Jérôme was born in 1956 and Agnès in 1958. As time passed her partnership with Dr Mottin increased. She replaced the doctor in his surgery during his summer vacation in August 1963 and 1964 and did a part-time back-up from October 1964 to March 1965.

During one of her house calls, Cécile was due to treat a six-month-old baby. The baby was born with a deformed spine, what is called a hunchback, due to a bad position inside the womb. This was caused by a lack of calcium during the mother’s pregnancy. The baby had no other symptoms but was too young to respond to the instructions of a therapist. Cécile decided to make use of the baby’s natural intrinsic response in muscle exercises to help redress its spine. The idea was to install a reflex (an automatic movement) that the baby could do without thinking, to straighten its vertebrae naturally. After the gentle massage modelling prescribed by Dr Mottin, Cécile would place the baby on its tummy and lift its pelvis slightly so that it was in the same sort of position as a ‘gargoyle’. The baby automatically moved its little arms to each side of its chest and pushed up on them thus strengthening its back muscles. An X-

ray taken at the hospital a few months later showed that these exercises had had a beneficial effect on the baby's spine. Cécile continued therapy for symmetrical rehabilitation with this little girl for seven years. Quite by chance, they met again in 2000. Just imagine Cécile's delight to discover the little girl had become a wife with a baby of her own. Her husband thanked Cécile for having helped his wife to 'become such a beautiful young woman'!

CHAPTER 2

THE BEGINNING OF THINKING EXPERIENCED THROUGH BODY MOVEMENT

"The aim of the game is for children to gain confidence in themselves and in their ability to make and do."

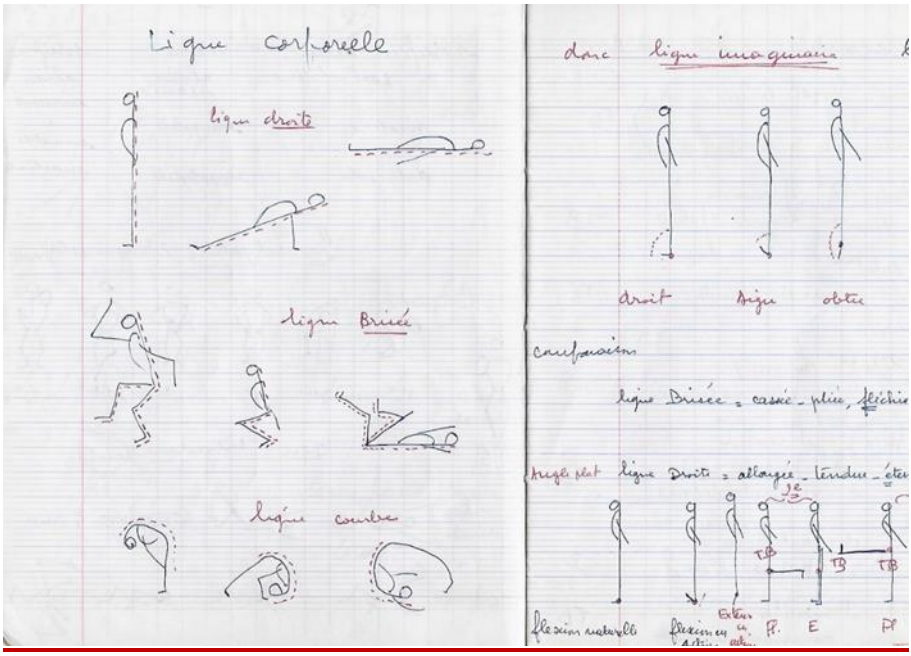
Cécile Patin

While she was working with Dr Mottin, Cécile happened to meet Mr and Mrs Spinat, who were both clinical psychologists. During a conversation the young woman spoke about her work and her attempts to help a schoolboy who was unable to concentrate. He had been a pupil at the Saint-Martin-de-France school a couple of years earlier. Colette Spinat, who was also a special needs teacher, totally devoted to children and teenagers in difficulty, was particularly interested in Cécile's approach to the problem. Colette said, "**You might not have had the training or qualifications, but you certainly have the right instincts**". Colette began to wonder about the possibility of letting Cécile deal with psychomotor cases. "**Perhaps we could work together?**", she suggested. Cécile was both flattered and worried, once again doubting her own competence. But after listening to the specialist's justifications, Cécile accepted the offer.

This chance meeting turned out to be the beginning of a new direction in Cécile's career. She became involved with children suffering educational difficulties. At first the diagnostic judgements worried Cécile – "This child has no spatial awareness, temporal awareness, positional awareness"; "This child is restless, unstable"; "This child is too lethargic"; "This child is aggressive, antisocial"; *etc*. To acquire experience and gain confidence, Cécile started her activity under Mrs Spinat's supervision, working in her consulting room or on premises loaned by a friend. After a while, the psychologist sent Cécile to work in a private institution specialising in remedial teaching for slow learners at Coyela-Forêt. It was a boarding school for children from 7th grade (about 10 years old) to 4th grade (about 13 or 14) with above average IQ but who were behind in their school achievements.

You could almost say that these pupils were suffering from a medical ailment when you saw their deplorable body postures. They were wandering through their schooling, from one class to another, totally ignoring the fact that they could take control. They had to learn to stand straight, to breathe properly, to speak clearly, to listen carefully, and so on. The concentration needed to get the movement right was already an intellectual effort for them.

Before beginning therapy, in order to determine their most important needs, Cécile would ask "What problems are you having at school?" Cécile felt deeply concerned by the state of these pupils. They were so discouraged, seemed so incapable, and had such a poor opinion of themselves that Cécile made sure that they would feel some sense of achievement, however minimal, in what she asked them to do. She wanted to show them that they were capable of progressing in their schooling, even if they were behind the others. She gave each pupil a notebook which would both allow her to know what they were studying in class and them to avoid the strain of written work: they were allowed to draw pictures instead of writing, if they preferred. This freedom seemed well away from the constraints of their schoolwork and increased their interest in the document. Just to open the book became a pleasure. As they made progress physically, Cécile used stickmen, in the book, to illustrate the exercises.



The child could see the representation of what they had experienced. There was no longer any need to pretend they had understood, but something they had really done and felt was portrayed on the page, there for all to see and use. This knowledge built on three fundamental points which clearly demonstrate the power of the physical approach: my ear listens, my mouth repeats, my arm writes. Cécile wanted these children to gain confidence in themselves and in their ability to make and do.

As a child, Cécile had been a victim herself, suffering from the need to be trusted. She could still remember the cruel things her aunt had said, like "Wipe the cutlery, but leave the crockery: let's avoid breakages!" when they were doing the washing-up. These hurtful words had had a devastating effect on Cécile. If you tell a child they're stupid over and over again, they'll think it's true.

Cécile didn't want the pupils she was in charge of to suffer the same undermining impact. To achieve the desired result, she had to find each child's underlying strength by analysing their behaviour, so as to discover and use the child's unconscious but revealing gestures as an asset. The success of the task was obtained by successive and repetitive steps forward, with determination and also by letting the child regularly visualise his progress.

Every time a problem, however slight, was overcome it showed that the child was making progress, and thereby experiencing pleasure and a feeling of satisfaction. Finally, they could be pleased with themselves because others were pleased with them. The basic knowledge of these children was almost non-existent and their deficiencies enormous: they confused years, months, and weeks. It's difficult to imagine the negative effect not knowing one's calendar can have on the learning process. These children had no notion about time: hours and seasons, before, during, after… about space: top, middle, bottom, front and back, going and coming back, above, below, cardinal points, position of the sun… about position: sides, centre, left, right… all these words portrayed nothing precise to them.

Cécile was now able to understand what Colette Spinat meant when she said that these children had no reference points. These children's thoughts would wander all over the place, like a kite in the wind. Their bodies, which should be the springboard for their thinking, and which

were Cécile's tool as a therapist, were virtually imperceptible to them in spite of their mass.

She had to find ways to get them to relate to their own bodies. Nowadays we might say they were just not with it, or were missing the point. So, to achieve this she introduced fun activities which the pupils enjoyed doing. Concerned about the progress they were making in their schooling, one day, during lunch, she asked the teachers who were there:

"What do the pupils tell you about the activities that they do with me? What do they come for?"

After a long silence, one of them said:

"Oh, that's not difficult: they think they're going for figure-skating!"

This jokey reply was probably inspired by Cécile's married name (Patin, which in French sounds like the word for "skating"), and it implied that they found her activities entertaining but it shook Cécile. After all, the parents (who were paying her fees), the children, the teachers, the special needs school, all wanted to see positive results. That's why the young therapist decided that **each session would reveal some sort of progress, even if only minimal. That meant that the children must achieve something through their play**. She adapted her activities to the needs of each child.

One child, for example, was incapable of repeating two successive sentences correctly.

The first was "At noon, the sun is high in the sky"; this calls on the notions of time, distance, and place.

The second was "The cleaner carried the bucket up the stairs"; here there is a person, an action, and a place.

It was as though the child couldn't think logically, and his mind just wandered off. He didn't have the thread which would let him link words to the situations. He was having trouble with his schoolwork, such as reciting poems, because he didn't possess the notions of time or space: high, low, *etc*. Cécile was spending time getting his thoughts 'down to earth'. To help him, she set up an activity which she called "the finger game". The aim was to master the alphabet, because although he could read quite well, he was incapable of reciting the alphabet without forgetting some of the letters, always the same ones. In particular, he kept

leaving out the letter C. She got him to type out five letters at a time with his fingers, making him associate a letter with a finger, always the same ones: 1 – 2 – 3 – 4 – 5 corresponding to A – B – C – D – E. When he got to the letter E, if it wasn't the right finger, the child could see that he had made a mistake. He was invited to read the letters to try to understand why his fourth finger had typed the fifth finger's letter. Thus, he realised that the letter C was missing from the list. After doing this, he never forgot the letter C again. The same for the other letters with which he had been having problems.

Cécile was a tutor at the institution at Coye-La-Forêt for four years, from 1962 to 1966. These four years played a decisive role in the young woman's career. In 1967 the school became a Child Guidance Centre (IMPP) and moved to another location, near Bernay (Eure region) and so obliging Cécile to interrupt her private tuition.

The experience she had obtained with the children at that school, and the analysis of their specific needs, allowed her to imagine the implementation of a new teaching approach. She didn't give it a name at first, but this approach was to become "Thinking experienced through body movement" and she began to note each step methodically.

From experiments to a method

Only just a short time after losing her job at Coye-la-Forêt, Cécile was invited to join the non-profit sector. In 1966, due to the reorganisation of the Seine-et-Oise (a huge region which was split into 6 departments including the Val-d'Oise) a new welfare centre was opened in the Val-d'Oise region. Cécile was invited to sit on the board of directors by Geneviève Letourneur, wife of one of the teachers at the private school of Saint-Martin-de-France, and she became the board secretary. All initiatives considered necessary for the well-being of people in the area were examined. As she had been working with pupils at the Coye-la-Forêt school, Cécile had witnessed parents' despair in not being able to find solutions for their misfit children. Moreover, she was convinced that some of her patients had been prematurely condemned to using a wheelchair and not been given the opportunity to delay that eventuality by physiotherapy interventions. She spoke about these matters at a board meeting, and as a result two distinct ventures were launched jointly and in conjunction with the people concerned.

Very soon an association called ‘les Papillons Blancs’ (White Butterflies) came into being. This organisation was already implanted in several other towns in France. It was a member of the Unapei organisation, which brings together a large number of associations whose mission is to help mentally handicapped people (children) as well as their families. Here too, Cécile became a member of the committee and spent two hours of her time each month on duty in Pontoise town hall. However, she had to give that up after one year because the rules of the association stipulated that only parents of disabled children were suitable for this role. The association ‘Papillons Blancs’ changed its status and its name: it became GALEI (Groupe d’Action Locale en faveur de l’Enfance Inadaptée) which, in turn, gave birth to IME (Institute Medico-Éducatif) situated in the district of La Ravinière in the town of Osny. This institute still exists and takes in multi-handicapped children and teenagers to provide treatment, physical therapy, and individual needs teaching.

At the same time, Hélène Renaud, wife of Hubert Renaud, the Mayor of Cergy, was particularly interested in setting up an open keep-fit programme. In order to help define this activity and promote its benefits, Cécile got in touch with Raymond Dinéty who was an official for the French Federation of Educational Gymnastics and Keep Fit. He held a conference on 16th May 1966 in Pontoise. His presentation was convincing, and a few people who were already favourably disposed towards the issue studied the possibility, and in March 1967 started a group called ‘Cercle d’Éducation Physique’ (CEP) This was later to become ‘Cercle d’Éducation Physique de Pontoise et Environs’ (CEPPE) and was presided over by Marcelle Didier, wife of a house master at the Saint-Martin-de-France school.

Hélène Renaud became its vice-president and Cécile became its secretary. The mayor’s wife played a leading role. She started as a monitor, then became a coach and finally a yoga instructor. For many years she led the team of keep-fit instructors with energy, dedication, competence, and commitment. She made the group flourish, and today the CEPPE offers all sorts of physical activities such as body toning, stretching and Zumba. If Cécile had sown the seeds, then Hélène had tended the garden, and it continues to bloom with over a thousand members.

However, Cécile's contribution must not be underestimated. She trained a number of instructors in educational gymnastics for children, including Hélène, and also Colette Laurent, who had been treated by Dr Mottin for a bad back. The gym sessions in poise and posture given by Cécile in order to relieve pain had enabled Colette to move her body, fully aware of what to do and what not to do. This was a totally new approach for Colette who, from then on, was a staunch adept and encouraged her therapist to develop her method. Jacqueline Chartois was also a trainee. She would later start a folk-dance group in Pontoise (Pontisarae). This idea took form when Cécile, who had learnt folk dancing, used some steps in her gym sessions.

Teething troubles

Learning difficulties were becoming more and more predominant in Cécile's concerns. To help find solutions she started a child guidance centre with Marcelle Didier in October 1967. While the two women were busy dealing with the administrative requirements for the keep-fit group, René, one of Cécile's brothers, told them about a two-storey building for sale, twice 200 m^2, which could possibly be of interest. Cécile already owned a substantial amount of gym equipment, which she had bought from Maurice Colette, her former gym teacher, and which was stocked in her garage. Cécile felt that these walls were destined to receive her equipment. Marcelle Didier felt the same way and after having been shown round the place, they decided to buy it jointly.

It was ideally situated in Pontoise, at the side of the river Oise, very close to the school where both their husbands were teachers. The place had a calm, relaxing atmosphere with barges quietly travelling up and down the river. It would also offer the possibility of an 'after lunch riverside stroll' for those groups doing day-courses there, something the two ladies hadn't yet imagined. Colette Spinat was all for the purchase of this building because up to now she had had no other choice than to send the children she had tested and who needed therapy to Paris for want of a local institution. This obligation had dissuaded some families from sending their children for therapy, the costs in time, travel and organisation being too great. "If you equip it, I'll help fill it!", she promised.

Very quickly the three women started a limited liability company called “Child support centre” which later became “Centre for child support and functional rehabilitation”. Dr Mottin had suggested this name so that adults needing therapy could also be treated there. Different areas of the building were allocated to speech therapists, psychologists, clinicians, psychotherapists, and physiotherapists. Most of the practitioners came from Paris and very quickly they were totalling around two hundred hours of therapy a week. Marcelle Didier was on reception from November 1967 until July 1968.

Right from the start Cécile was asked to accept children who did not have a medical prescription for therapy. One of the bigger rooms provided enough space for group classes or workshops. With the equipment she had bought, Cécile was able to set up this small gymnasium in just the way she wanted. She held remedial (educational) workshops for posture then, on the request of Colette Spinat, she set up workshops for children with motricity problems or behavioural difficulties.

The method she had inaugurated with the children at the school in Coye-La-Forêt proved to be of great value as a primer, particularly the basic knowledge of the body, and a time-saver in obtaining the desired results. For those attending the corrective gymnastics workshops, the ability to recognize and name the ‘hinges’ of the body was an asset for keeping balance (when standing still) and correcting a bad posture. For those attending the behaviour workshops, an improvement in the children’s attitude was noticed. The understanding of their body gave them steadiness. They could truly feel anchored which, in a way, was comforting. The centre’s future was looking good.

But the following year turned out to be chaotic. The May 1968 upheaval in France had impacted the centre too: private practice was being discredited, and in any case carried a certain financial risk, so many professionals preferred the security of a salary from an establishment that also offered family benefits. The original team at the centre broke up at the beginning of the 1969 school year as everyone sought to find their preferred way to work.

No doubt Cécile’s pedagogy was disturbing too. Or so she thought. Odile Bergé, her colleague in rehabilitation, had noted her discomfort during meetings, faced with the knowledge of others. She had made it

her business to tell Cécile: "It's uncomfortable to listen to you speaking." Cécile, whose lack of confidence had never left her, considered her language very primitive, which made her feel self-conscious, which caused her to "stammer" which made her remarks difficult to understand. Most of the people there did not understand her approach, but Cécile remained convinced of her know-how.

Only Odile Bergé considered her ideas meaningful, and she would come to the gymnasium from time to time out of educational curiosity. Odile was an expert in teaching – pedagogics. She was a special needs teacher and re-educator in written language, trained in the method of the speech therapist Claude Chassagny, expert in dyslexia, who himself suffered from dysorthographia disorder. This training gave her the title of speech therapist but with limited practice because it did not include oral language therapy. Odile Bergé had however followed several other training courses and she was extremely competent. She had joined the Child Guidance Centre as soon as it had opened and had continued her collaboration, part time, even after the disintegration of the initial team in September 1969.

Moving from learning about one's body to learning at school

The Centre was functioning satisfactorily during school time, but the gymnasium remained empty during the holidays, the result of which was a substantial financial loss for the company of which Cécile had become the unpaid manager. She had embarked on the acquisition of this joint possession without a penny in her pocket. Her partners paid her a percentage of their gains. If they didn't make any money, they didn't pay anything… For several years running, Cécile had to borrow money to keep the venture going. It was therefore essential to have people coming to the Centre, even during the school holidays. Never short of ideas, Cécile decided to use the holidays to offer catch-up workshops for pupils who needed help with their schooling. The first workshop took place in July 1970.

These workshops took the form of crash courses, in contrast to private lessons spread over the year, and were aimed at helping pupils catch up and take interest in their schooling particularly for those key years from 10 to 12. The workshops lasted two weeks for groups of seven to ten children. Most of the participants were referred by Colette Spinat in

response to requests from parents whose children were either too far away from Pontoise or not available during school time. The practice of corrective speech therapy was not common and children who didn't get help usually had to re-sit their school year. The aim of these workshops was to avoid that happening. Colette Spinat's feeling was that these children had already suffered enough at the beginning of their schooling, and there was no time to lose. The first catch-up workshops were organised jointly with Odile Bergé. Their plan was to alternate physical activities in the gymnasium with 'catch up' sessions in reading, writing, and counting, which would take place in the small hall they used for individual study. "Bend your body, then boost your brain" as Cécile would say!

On the first day, the gymnasium was more like a "corral" full of wild horses with the leader using a lasso to tame the animals as best they could. It was the beginning of the school holidays, and the children were inclined to consider the two teachers as camp counsellors.

The handling of the sessions was in no way comparable to what had taken place in Coye. This new experience made Cécile flesh out her method. At the same time Odile Bergé and Françoise Leclerc, a speech therapist at the Centre, brought a clearer outside perspective which helped to improve the technique. The children were not listening to instructions, they were too busy having fun, and the result was indeed a joyful mayhem, but they were making far too much noise. Once the leader had clapped for attention, a short, quick instruction was needed, such as "Sit down!" along with a gesture such as putting a finger on the lips to indicate "Quiet!" and an eye contact with each child to make sure he was attentive. To avoid shouting, and getting new problems with her vocal cords, Cécile preferred to use a tambourine. Tapping the tambourine signified that all activity should come to a halt and silence should be made. This method was quite effective, but not always fool proof.

One day, after some free play, Cécile used the tambourine to indicate the end of the recreation period, but in vain. When she put her finger on her lips, the children gradually took notice and quietened, except for one. He continued to have fun in his corner, he was in his own world and seemed to be really enjoying himself. The group could hear him laugh happily to himself. This little boy had a twin brother, and the two always had to do things together, so this twin dreamed of doing things on his

own. On this particular day, he was not with his twin, and he was particularly happy to find himself on his own at last. Cécile was tempted to think that he heard himself laugh, on his own, for the first time in his life. She made the other children in the group understand that they were to keep quiet, so quiet that the total silence eventually drew his attention and made him look around. “What?” he asked as he looked at the others. He was invited to join the group by gesture, and not a word was said.

The silent approach to short-circuit inattentiveness had worked. The use of the tambourine however was particularly constructive because by tapping different rhythms it could catch people’s attention over different distractions. Children don’t listen when they can’t hear. Moments of total silence allowed them to detect environmental sounds: the ticking of the clock, the creaking of a door, a car going past or the engine of a barge on the river Oise, the noise of a train in the distance, the shuffling of a shoe, a whispering, a conversation some way off, a horn hooting… It turned out to be very difficult for some children to hear these noises.

They had to stop to listen. The daily life of these children was cluttered with constant noise, and that is even more true today: radio, television, street noises, traffic rumble, not to mention the constant chivvying of their parents: “Hurry up! Wash your hands!” and their teachers: “Stand in line! Open your books!”. There was so much racket that they no longer took any notice. “Talk to the hand!”

Even Cécile’s wording took on a new dimension, as it too became more body oriented. Her words drew attention, and her language was quite the opposite of conventional words used to express politeness and good manners, which had proved inefficient just like yet another background noise. In contrast, Cécile’s body-oriented language had real meaning and was therefore immediately noticed. “Sit down!” or “Be seated!” didn’t work, so spontaneously Cécile used “Sit on your bum!” The result was immediate – the children did as they were told! Cécile used this style of Rabelaisian language throughout her teaching career. “I’m sure Freud would be pleased with me!”, she thought. But for her, it was reality, not vulgarity: “people see themselves as a head and a body with legs. They don’t consciously think about the parts they sit on! Talking about the pelvis, and the organs contained in the pelvic cavity and how they work, was necessary to make progress.” Evelyne Ballot, psychoanalyst at the Child Guidance Centre said, “You actually talk about

their sex". Cécile had decided that her teaching should be felt 'in the flesh', as she would say. That's why she would always seek to make her students 'feel' or involve their body in search of a solution for each problem. This was the foundation of her method.

In the third year, Odile had understood the importance of experiencing things bodily, which left a lasting imprint on the students, and she suggested that Cécile give up alternating the two workshops: learning about the body and catching up on schoolwork. "Cécile, you lead the workshop for the first week and I'll take it over for the second week because anything I can do with the pupils will not be of any benefit if they haven't already integrated what you teach them!" she exclaimed.

The first week developed into a training session to channel attention and obtain a minimum of stability so that the second week could be an intense, efficient school catch up. Cécile's role was to bring the whole group up to standard so that each child would give up their messy behaviour and learn self-control: this involved acquiring learning mechanisms and having some elementary knowledge of one's body as well as other learning sessions according to the needs that became obvious as the week progressed.

Each day, Cécile would get the children to record on paper what they had experienced that day, which meant that the children were already getting exercise in spatial organisation because they had to write the page number in the top right-hand corner and their initials in the bottom right-hand corner. This written report of what the children had experienced supplied them with a record of all the movements experienced and the workings of their mind.

While the first week was almost entirely devoted to thinking experienced, the second week was spent on foundational education, particularly for the junior school pupils. For the secondary students, they focussed on the fundamentals of learning in class, and how to work through a book from the table of contents or with a lesson outline. At the end of the course the children had overviews of grammar and verb conjugation and the metric system, and they had diagrams which enabled them to hold on to and combine their mental threads in ways they'd not been able to before.

In her mission to help scholars catch up on their schooling, which also took place outside the school holidays, Cécile helped one grammar school student who had left school at 16, hoping to succeed in life in some other way. After an unsuccessful attempt in a new direction, he returned to school when he was 19, hoping to prepare for the Baccalaureate but conscious of the fact that he had problems.

The young man often confused mathematical signs (< and >). During their first exchange, Cécile let him know that she had not done secondary studies herself, and because of that her level in maths was not as good as his and that what she was going to ask him to do might seem very infantile at first, but she would teach him what she knew. The boy accepted. They started doing sessions of "Thinking experienced through body movement" which took place once a week. The aim was to help him anchor the notion of linear space when reading and writing. He quickly assimilated the notions of body mass, breathing, self-image, his place in space. He did not need psychotherapy, but simply needed to be informed of his natural capacity which he'd been unaware of.

He was not very talkative, so after several sessions Cécile tried to evaluate what he thought about his progress. She asked a few questions:
"How are things going?"
"Better."
"Better in what way?"
"Well, now I know where I am in the class."
"Do you? How's that?"
"Before, I thought I was right in the middle."
"And now?"
"Now I know that I am at the desk next to the window."
He had expressed his physical location and was quite happy with that. There was no doubt that this starting point was enabling him to turn over a new leaf.

In the weeks that followed, the regular question:
"How are things going?" inevitably received the habitual answer:
"Better."
"What is better?"
"I have stopped looking at my watch all the time."
"What do you mean?"

"During tests, I kept looking at my watch, and now I don't do that anymore. I start the exam and go on without bothering about it until I get to the end."

He was most certainly feeling reassured about his abilities, and he was more relaxed, which surprised him. He asked Cécile why his results had improved in maths even though he wasn't getting extra tuition other than what he was doing with her, which didn't include maths.

The explanation she gave him was as simple as the exercises they did together and just as astute: imagine that when crossing a forest you come to a clearing with a signpost, which is going to be your starting point: it corresponds to your own space, empty, where you are the centre of the surrounding world and where you can come and go at will or remain there, motionless. If you don't know this starting point well, it prevents you from being able to place yourself, and act accordingly, particularly in times of stress, and it creates a lack of confidence.

From this signpost, paths lead away in many directions. By going along one and then back again you can discover the different types of trees in the forest and the detail of them. If you go along each path in this way, always coming back to the signpost, you explore each path and so explore the whole forest. But this '**analytical exploration**' only gives you a knowledge of portions of the forest compartmentalised by lines of trees. On the other hand, if you fly over the forest in a helicopter, you can get knowledge of the forest in a 'synthetic' manner with an **aerial view of the whole forest**: when seen from above, it is easier to understand.

Now, when we are in classes at school, we learn specific subjects in a lot of detail, but our knowledge is compartmentalised for each subject. That's why we can have difficulties applying what we've learned because we don't know the relationships between these areas. With an **aerial view of our knowledge**, we can more clearly see the point and be more comfortable applying what we've learned. This young man was smart and had paid attention in the exercises they were doing. Getting his bearings in mind and space had given him confidence of his educational ability. He now had no difficulty knowing his own starting point and exploring the individual paths leading from it.

A pioneering method

During the first week, the families were a bit reluctant, because the children would come home and say: “It’s great, I’ve been doing gym!”, “I can juggle balls!”, “I’ve been dancing!”, *etc*. Parents had the feeling that they were just spending their money on games. But by the end of the week, they were talking about surprising effects: “My child is sleeping better.”, “My child who refused to eat is now eating.”, “My child was a constant chatterbox but has now started listening to what I say”, *etc*.

Some of the mothers, curious about how such good results were being achieved, were invited for a cup of tea. Cécile suggested that they too could follow a course to help them understand the difficulties in thinking experienced by their children. Those who were interested took part in a course, adapted to their free time, spread out over a term, for half a day a week.

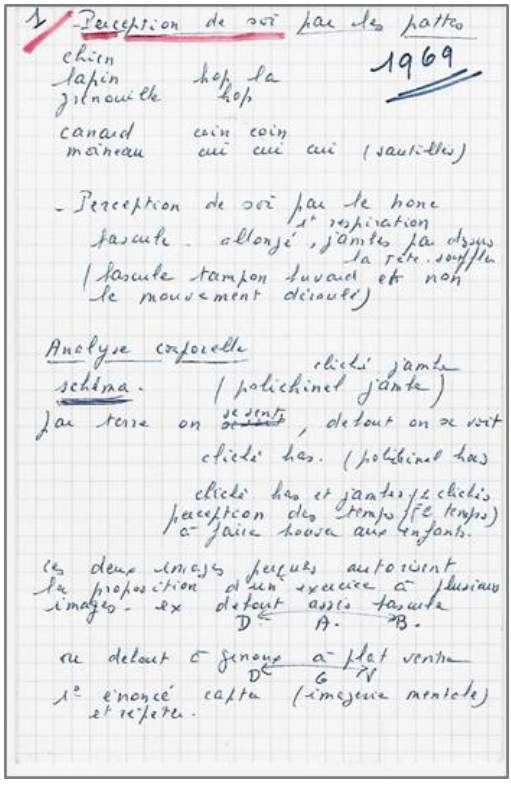
In 1969, convinced that she had discovered a method which the others failed to recognise, Cécile wrote up her theories, both pedagogical and technical. Keen to make sure that her original ideas would not be later distorted, on a friend’s advice she registered her texts with a notary at the departmental archives “by exceptional process”. She was continuously improving her theory with each of the sessions she held. The technical notes became more and more precise with practice. Since the method is to be adapted to each individual need, it is only natural that it expands (and prospers), however the basis was set, and that hasn’t changed during later development.

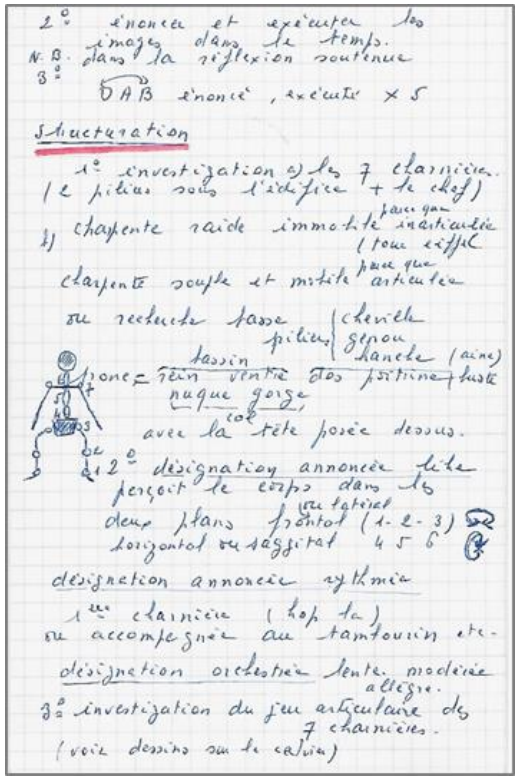
In the summer of 1969, Cécile was able to organize a workshop training participants in the “thinking using psychomotor skills” or “experiencing thinking”, names that were given to the method for adults. Many of the workshops only had two or three participants, so they were more like individual training sessions. However, even if they lacked the group dynamics, they proved to be very worthwhile for everyone.

Colette Laurent was the first person to take part: three days mainly based on body movements because Cécile did not feel capable of giving lectures or presentations. At the end of the session, Colette was given just seven pieces of cardboard on which there were sketches, both sides,

and a few words evoking the main points of the activities. Colette gave me these original pieces of cardboard saying: “During the first workshop I didn’t really see the point. During the second workshop I began to feel that perhaps I could help Cécile.”

But the essential of the method was already there, and nothing much has changed since. However, little by little, experience helped it to develop. Those who had taken part in a workshop and who wanted to continue practising what they had learnt needed something more to refer to than simple sketches: they needed a complete step-by-step description. On one occasion, one of the participants was willing to let Cécile keep her notebook for a while. This gave Cécile time to read through the notes, to add titles to the paragraphs, to use colour where required. Then Cécile used this copy for the next two or three workshops, encouraging the participants to comment on the methodology: “Well I think this section should come before that one…” The organising of the trainer’s notebook had become a joint effort.





Next, Cécile found that the term "psychomotor" tended to provoke conflicts between practitioners in paramedical and non-paramedical professions, speech therapists, writing therapists, occupational therapists, psychomotor therapists, physiotherapists, *etc*. So, Cécile **removed the term psychomotor** from the title she had given to her method: from then on, she called it La Réflexion Vécue – Thought Experienced. She tried in vain to attract the interest of the prominent educators of that time, but it was probably too soon. There was no doubt about the success of those practising the method, even if it had not yet received academic recognition.

Marie-Claude Suinat, a new physiotherapist at the Centre, someone who was constantly investigating new approaches to help her patients, introduced Cécile to Jean-Claude Manzano, psychoanalyst and psychotherapist for children at Alès, in the South of France. He published a magazine entitled "Your children", distributed in the south. He took the place of his wife, who was herself a physiotherapist, after she fell ill when due to attend one of Cécile's training sessions. He was so excited about this new method that he asked Cécile to write an article about La Réflexion Vécue for his magazine. This article was published in July 1971. Several other articles were to follow over the next year including one co-written with Odile Bergé. This first text gave Cécile the opportunity to have a general view of the educational psychology process of her method.

In 1973, Mrs Mantoux, who was in charge of the union of speech therapists in the Rhône-Alpes region, came for a training session. She then organised a training session for the speech therapists in Lyon, in 1975, and then another in Grenoble in 1976. In 1974, Jean-Claude Manzano had invited Cécile to lead a training session at his practice in Alès. It was he who encouraged the creation of a new association, the Centre National d'Entrainement à la Réflexion Vécue par le Jeu Corporel (National Training Centre for Thinking Experienced through Body Movement), of which he became the first vice president in 1975. He claimed that "it is easier to stand up for a movement than a person". The aim of this association was to promote the method which became known more explicitly as "Thinking experienced through body movement".

Jean-Claude Manzano frequently recommended these training sessions because he was convinced of the good results. He suggested the training to a family from the Rhône region: the parents were anxious to help their twelve-year-old twins pass on to the next grade. Both girls had a few challenges in their schooling. One of them was dyslexic and was having problems with her maths, while the other, who wasn't dyslexic, was having problems with her French. "Go to Pontoise and follow a session of Thinking experienced through body movement" he told them. "One parent with one girl and the second parent with the other girl: like that you will save time. I know what I am talking about because I have done the training myself." During the course, when the participants were asked to use their fingers to grasp the idea of 'before' and 'after', the father suddenly exclaimed "Oh, I see! – that's why! Up till now I have never understood the use of the verb 'to have' with the past participle!"

Training sessions organised for the adult education programme in France (called "GRETA") started in 1975. They were for young girls who had left school without any qualifications and for mothers who had stopped work to bring up their children and who wanted to return to a professional occupation. These sessions were part of a personal pre-training course based on the theme: "Know yourself in order to know others" or "Know enough about yourself in order to identify your strengths and how to use them".

"This was the first time anyone had told me I was doing anything right"

Thinking experienced through body movement had come into existence and was proving its worth with children as well as with adults. Medical staff, teachers, psychotherapists, speech therapists, *etc*, who had done the course saw it as a new and effective way to help those in their care.

This was the case for Mrs Odette Lys who did the course in 1976. She had joined the association as a creative educational practitioner (inspired by Arno Stern). She was also involved in Supervised Education, which would later become Legal Protection of Young People, which took charge of juvenile delinquents.

She introduced Cécile, and a workshop entitled “know your strength so as to control it” was organised at St Jodard, in the Loire region. This workshop, with accommodation, was for teenage delinquents from the age of 14 and over. Cécile was asked how many participants she would like for the course. Since it was to take place on unknown premises, she instinctively said seven, and added “plus seven adults!”

The course began on a Monday. Cécile wondered how to conduct the programme. The youngsters were very restless and were continually asking to go to the toilet, one after another. One of the adults told her that it was an excuse to have a smoke. Each youth took a puff and passed the butt on to the next one. Since it was out of the question to repeat each exercise, thus hindering the progress of the programme, Cécile said that she would wait for them to finish. Unable to control them, Cécile asked each adult to supervise one youngster. The session went on in this way as best it could, and the program followed its course.

One of the youths was prone to nightmares which made him irritable. One night, Cécile heard an awful din followed by a howl of terror which was very scary. The following day, the young man was absent. Later in the week, he was back on the course, when the participants were invited to consider how dreams could affect their thoughts. He told his supervisor “I can’t do that; I only ever dream about murders and executions”. He was of Algerian origin and had probably been the witness of war atrocities which were causing him to have these terrible nightmares. After the course, Cécile was told that these nightmares had disappeared.

Another youth was extremely restless to the point of being unmanageable. Quite unexpectedly, Cécile drew him to her for a bear hug. He felt awkward, but calmer. Cécile couldn’t help wondering whether she was doing the right thing, treating him like a baby when he was really a teenager. On the last day of the course, a Friday afternoon when the participants were exchanging their impressions, this particular youth said “Thank you for coming all the way from Paris to teach us. It’s the first time anyone has told me that I am doing anything right”. As for Mr Frerhing, who was responsible for these youths, he said “you have added a dimension to the role of a supervisor: that of a mother”. However, Cécile didn’t really know what benefits these youths had gained from the course. She needed feedback, and this is the report she received:

Account of the course entitled "Thinking experienced through body movement" conducted by Cécile Patin at the I.S.E.S. at Saint-Jodard from 1st to 16th October 1976.

The object of the course

The difficulties being encountered by some of the youths at the institution to live with their bodies at the present moment was the reason for organising this course. The educators had noticed a certain ignorance, sometimes a total ignorance, of the body, along with various disorders concerning awareness of time, space, laterality, and rhythm, and some of them were also experiencing problems with coordination.

So, for example, each youth who enters the institution is supposed to be able to read and write (at least phonetically), count to ten or a hundred, be able to do sums, and do a sequence of basic movements enabling them to learn a trade. But these notions taken for granted are collapsing when considering the number of deficiencies, of varying degrees, that the young people are presenting in all fields, physically and mentally.

Now, the difficulties presented are very often of emotional origin. Indeed, it is frequently a general disturbance of their emotions that causes intellectual and motor dysfunction, to the point that a perfectly normal child, sound in mind and body, can seem to be intellectually retarded and/or hindered in the use of his body. That's how some specialists have found it quick and comfortable to label youths into a certain category without further investigation.

This course offered an approach to gaining self-awareness through body movement in order to reinitiate treatment of this form of learning difficulty that seems straightforward, but which modern educational approaches often seem to miss.

The body, which is sometimes the unacknowledged vehicle of thoughts, emotions, and gestures, needs to be put first to become a powerful bond between what you are and what you do.

Organisation

Participants: seven adults and seven youths, six of whom followed the entire course.

Location: the classroom of one of the adult participants, who was a teacher in the school.

Supplies – Equipment: extremely basic – blankets, skipping ropes, tambourines, tennis balls and the usual school items (notebooks, *etc*.)

Timing: Monday to Friday from half past 8 to half past 12 then 2 till 6 in the afternoon.

The content of the course

The objective: to gain awareness of the body and how it affects our knowledge of time and space. This was to be achieved through games, increasing in complexity and varied in content:

Developing knowledge of joints (hinges)
Feeling of body mass and weight on the ground
Developing awareness of breathing
Understanding opposites such as weak/strong, hard/soft
Making an inventory of organs and their functions
Experiencing directions, sides, and rhythm

Overview of the method

Each session was planned around four main steps:

Step	What is said	Aspect	Type of energy
1. LISTEN	"Do this…" = instruction	HEARING	mental
2. AGREEMENT	"I'm going to do…"	THINKING	mental
3. ACTION	Attempts to carry out instruction	DOING	physical
4. REPORT	"This is what I did."	CHECKING	mental

The body/mind dichotomy – the students have now become aware of the type of energy needed for the different steps; mental or physical.

One original feature of this method, among others, is the fun aspect of all the suggested exercises, hence the name "Thinking experienced through body movement".

We can observe in passing the importance of the mental energy which is central to three of the four steps in each complete sequence, and which continues to be present when the physical activity itself is in progress.

It would be impossible not to mention Mrs Patin's personality in suggesting and conducting the course exercises. We would like to say

just how much we appreciated her patience, her sensitivity, her understanding, and her straightforwardness.

Problems encountered

The difficulties could be either specific to certain individuals or to the group:

- From an individual point of view, participants were confronted with the discovery of tensions, blockages and other limitations which could be:
  - Intellectual (understanding, listening disorders)
  - Emotional (desire for improvement, motivation)
  - Motor difficulties (position and coordination)
- From a group point of view, the combination of supposedly 'normal' adults and misfit teenagers caused some difficulties which were almost overwhelming from time to time, particularly as regards attention, motivation, and participation.

In all fairness to the youths, since the object of the course was to reconcile them with their bodies, it is inevitable that regression situations were generated, of different status according to the individual. Memories of prior crises released pent up tensions with all their share of insecurity and aggressivity. Teenagers are at the age where reactions of this kind happen, but when spread over a certain length of time they appear to be less intense. Whereas during the short period of the course, the memories of different emotional states were so intense and dramatic that some of the youths found them to be a bit much.

By the second and third days of the course, the instability of the youths had reached a point that caused Mrs Patin to invent a stratagem: each adult was to become a 'nanny' for one of the boys. This model bringing to mind the idea of a 'baby' discovering its body and its surroundings was particularly revealing during the first few days of the course.

The last day of the course was quite a surprise; the youths were capable of listening and having gained confidence they had begun to realise that they were capable of doing things they hadn't previously imagined.

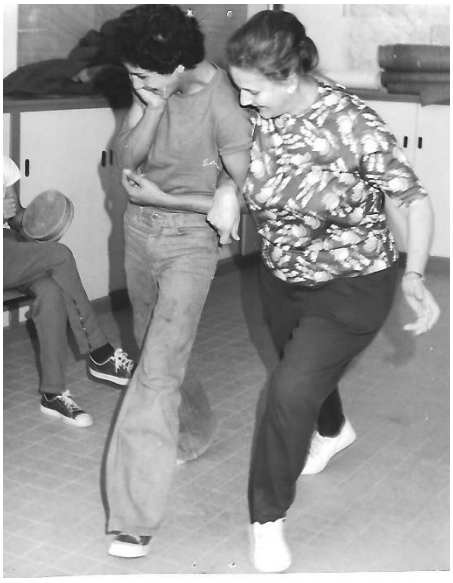
Oral assessment:

By the youths: “I have learnt to listen…”, “The course has helped me to relax…”, “It has made me think about things…”, “This was the first time anyone had told me I was doing anything right”. These are some of the remarks made by the boys at the end of the course.

By the adults: recognition of a better awareness of the foundations of any educational project and of the primary importance to be given to the body in the conduct of educational action.

Conclusion:

Such a venture only makes sense if it is to be continued. A work group of youngsters who have followed the course and some of the adults could be planned on the basis of one session a week. We are aware of the limits of this brief introduction and wish to express, collectively, the obvious need for continuing these more instructive training sessions.



On the strength of this success the training course was mentioned in the Revue of Supervised Education, and other requests were made by special needs teachers. Cécile was sent to Montoy-Flanville, near Metz: in 1978 one of the people in charge of the organisation there asked her to organise a two-week session after every six-week period, based on “mastering movements in a work environment and academic reasoning

in the classroom". Once again it was a group of seven youths accompanied by seven adults. Needing time to think about how to begin the first session, Cécile had not tidied things away and there were some skipping ropes left out. One of the youths picked one up and tried to skip; he didn't succeed, because his movements were too disorderly. Cécile offered to help him, and this gave her the opportunity of beginning the course with the whole group. She was able to find the right way to start her coaching by dealing with his agitation. At the end of the course, she wrote up a summary of all that had happened because the administration had commented on the fact that they had never known a trainer put in so much time.

This comprehensive report, full of details, was a sort of justification for the number of hours charged. Bernadette Gueritte-Hess, speech therapist and psychomotor therapist, was also in charge of legal protection: she told Cécile that, since the course, there hadn't been any more of the youths trying to run away. She was later the author and co-author of several books including one entitled "By the way, what does the decimal point mean to you?" and a more recent one "100 ideas to learn how to count your change". She was the trainer for Agnès, who was then aged 26, and concerned by the study of logical mathematical thinking.

Cécile realised that it was still useful to review the basic techniques with these youths going through a period of behavioural difficulties. She called this "The basics of knowing how to be". She always made sure that the person opposite would never feel diminished, on the contrary, she wanted them to feel valued.

From 1976 to 1979 she led other courses for Supervised Education in Bouguenais (Nantes) and Vierzon, as well as training sessions for staff at the 'École Nationale de Formation des Personnels de l'Éducation Surveillée' at Savigny-sur-Orge and at the 'Centre de Formation et de Recherche de l'Éducation Surveillée' at Vaucresson. Christian Lemaire, a special needs teacher as well as an actor and acrobat, who did the training in 1977, gradually took over some of Cécile's tasks. Other issues were introduced by him at the school in Savigny-sur-Orge, such as 'Body and theatre', 'Body wagers', 'Body and play', and 'Discussions without words'.

CHAPTER 3

CÉCILE PATIN'S METHOD UP TO THE PRESENT DAY

An effective tool, a personal help

While training some of the summer camp leaders, Cécile got the opportunity of meeting, on several occasions, Reverend Father Philippe-Alexandre Rey-Herme, born in 1914. He had become a theologian, educational psychologist, and teacher at the Catholic Institution in Paris. After a while she decided to show him her first written notes about her 'method'.

One of the aspects of the method that she had developed consisted of helping those children who were distracted or incapable of focussing without having to make a significant effort to avoid losing the thread and remain concentrated. She came up with the idea of illustrating this **mental thread** in the manner of a speech bubble in comic strips. She told the children to imagine that the thread was attached to a part of their body, a foot, for example, thereby helping them to control it. This mental thread could become stronger if used regularly, just like a muscle in the body. This concentration exercise could be developed endlessly by using voice control at the same time as making a movement, movements which would become more and more complex.

"The close connection between the physical movement and the mental thought is one of the most productive notions in modern educational psychology" is what the Rev. Fr Rey-Herme wrote in 1969 after discovering Cécile's method and this particular exercise.

Cécile has organised several other training sessions during her career. Different specialists in their field (speech therapists, instructors, teachers, psychomotor therapists…) took part in one of these sessions, then, in turn, organised workshops of their own adding a personal touch in relation to their needs. Cécile's method supplies them with a base, a tool, which they can use and adapt for their own purposes whether with individuals or with groups. Colette Laurent, who was then the administrative director for the Centre de Guidance Infantile, spent years helping the association by doing voluntary teaching.

The association 'Centre National d'Entrainement à la Réflexion Vécue par le Jeu Corporal', renamed in 2011 'Méthode Cécile Patin', still continues its activity. Following Colette Laurent's example, one of her grand-daughters, a special needs teacher (child welfare), continues to send children for sessions at the association in the belief that they will learn to know more about their capacities and gain confidence in their aptitudes. Isabelle Coulange, who was trained by Cécile in 1976 while she was still a student, is now a teacher and continues to be fully involved in the association. She took over the presidency for a while, following Cécile, and has been an honorary member since 2012. She used Cécile's method in her school to help children with learning difficulties. She largely worked on 'attitude in the classroom'.

Different categories of people have gained assistance, and still do, from Cécile's method: children, in tutoring sessions at school; youths between sixteen and twenty-five, in the local Youth Employment Centres; illiterate people, in helping them to associate the written word with its meaning; students, in obtaining their master's degree in adapted physical activity; travellers; *etc*. Renée Gomy, who was employed by the association from 1981 to 1988, and was a 'creative education practitioner' (Arno Stern) and a trainer in educational gymnastics for children, and was also a trainer for the association Thinking experienced through body movement, reported the following example: a woman from a traveller community did not know, before having done the exercises in Cécile's method, that her legs were the members of her body which enabled her to go upstairs.

Today's issues

Our lifestyle has changed since Cécile's beginnings, and not always for the best. Modern day life is more sedentary, far from what Cécile knew when she was cycling long distances to go to work. It is more harmful for our health and wellbeing. There is an ever-increasing disproportion between the mental energy we use for the audio-visual aspects of modern life and the physical energy that modern comforts mean we no longer use. Television, cinema, radio, and the Internet are wonderful ways of getting information, of discovering things, but without having to make an effort to obtain that information or the personal achievement of having discovered for oneself. Screens have invaded our daily life; for school, for work, for leisure.

Our bodies must be stationary to allow us to listen, observe and learn whereas our minds are in permanent movement with what we think, see, and hear. The result is a too great disproportion between the two, letting thoughts wander off leaving our bodies out of control. This disparity can be the cause of mistakes, which become recurrent failures without taking the time to understand the cause. Children are young enough to still be malleable, but they switch from one thing to another too quickly and have problems achieving things which take time. An intensive course should include some free time, even if only for short periods. These free play periods give the instructor the opportunity to observe such notions as: sharing equipment, being careful and respectful of each other, everything related to etiquette and social skills. Working on these aspects is more than ever necessary.

Intellectually precocious children

When children with high intellectual potential are in distress, they are sent to the association for help with their behavioural and relationship problems. They are often rejected by their classmates at school and can become so isolated that sometimes they don't want to go to school. These children show a great degree of cleverness but cannot manage their emotions. Everything concerning the intellect is easy for them, but they cannot cope with the exercises requiring them to use their bodies, their hands. These children need to work in small groups and learn to manage their bodies which will help them to control their emotions.

"Here to help"

The town council of Pontoise set up a 'learning success programme', which teachers could send children to when they were finding it hard to keep up with their lessons and their parents couldn't manage and didn't know who to turn to for help. This assistance could uphold these families, offering support and setting up means to achieve educational success. Cécile Patin's Method was one of these means. A child could be monitored at their school, after lessons, for 10 sessions. The parents and the programme were supplied with observation reports, one prior to the sessions and one at the end of the course. The results obtained were convincing and gratifying. What had been blocking them suddenly clicked for the children. For example, one of the children couldn't write

properly. After several sessions, he completely changed his way of writing. He needed physical exercises involving his whole body in order to achieve the required motricity. To control his hand, he needed to be able to control his movements.

For the council, Cécile Patin's method had proved its worth. Not so long ago, a treasure hunt had been organised along the 'Chemin de la Pelouse' where the association still has its headquarters. The participants were to solve clues, one of which was "Here to help", which required the participants to find (and name) the association.

"You can't catch all the fish with the same hook!"

The basic technique of Cécile Patin's method is always to put the child, or adult, in control of their 'body vehicle'. To achieve this, the person learns first about his body, then where to situate it in space, both near and far. Practising movements develops the precision (and understanding) of the action.

The five principles of the method are: perceive, conceive, act, instruct, and check. The student must listen to an instruction, understand it and follow it, then, in turn, give the instruction to someone else and check their accomplishment.

Students are encouraged to repeat, over and over again, to attain perfection. Trial and error is acceptable at first: it is all part of learning. The aim is to obtain a flawless performance on five consecutive attempts. When this happens, the exercise is considered to be grasped. 'Five' is a good number, not inaccessible: you can count to five on your fingers. It is given as the goal from the very beginning. Often when a child has succeeded once, they feel capable of doing it again three times, then five. They suggest this themselves without any pressure.

However, Cécile Patin's method is also a set of exercises that can be adapted to need. As Cécile put it "In the method's bag of tricks, there is a whole stock of exercises that we can use. We choose one for the right person at the right time. We just pull them out of the bag like a rabbit out of a hat." Each mental obstacle can be overcome by finding its physical linkage. Odile Bergé would sometimes ask "Cécile, can you find the physical linkage to overcome this particular blockage?" And Cécile was

always able to find one. It sometimes happened that she would draw some personal benefit even though the exercise was not intended for her.

Amongst some of her other concerns there was one lady who contacted Cécile after she'd failed her driving test seven times running. She couldn't imagine failing an eighth time. She was afraid of facing the examiner.

To begin with, Cécile asked her to stretch out on the fitness mat to relax and to feel the comfort of having her spine flat on the floor. Then, because the lady was looking miserable, Cécile asked her to skip round the room using a rope with the intention that this would pull her out of her gloominess. The woman was taken aback, as it had been such a long time since she had used a skipping rope! After a little stumbling, she rediscovered her childhood skipping skills and smiled with pleasure. Her worries were on stand-by, and her nervousness subsided enabling her to concentrate on something else.

Cécile's aim was to help the lady rediscover her whole body by locating the different parts: segments, hinges, *etc*. The priority being to rediscover her torso: she had only been concentrating on her head and legs. After several more lessons her driving instructor said "Goodness, whatever has happened to you? You are coping without any help from me." Undoubtedly, he had noticed the new confidence that his pupil had gained recently. Shortly afterwards, the lady received an eighth appointment to take the test again at eight o'clock one morning. At eleven o'clock that same morning she phoned to say that she had passed: at last, she got her driving licence. Just ten sessions with Cécile had proved enough to enable her to find herself – to remember who she was, where she was, and what the challenge was about. She could look the stern examiner in the eye without fear: after all he was just a person, his body was like hers and not a crushing mass, even if he was the examiner.

For Cécile the importance was to help the lady position herself: knowing whether she was sitting on her bottom (Cécile would use the word "bum") or standing on her feet, to see which way to turn… As if her body were in the centre of an orientation table with a panoramic view in front but nevertheless conscious of what couldn't be seen behind by using her **mental mirror**. Like a scared person who clings to the wall, she needed to feel safe in her environment.

The lady didn't say if any one particular of the mental activities had helped her overcome her test failures but as far as Cécile was concerned the fact that she was now aware of her **forward-facing boundary** while doing different exercises helped her to feel safe.

Cécile used exactly the same exercises with a child who seemed not to know how to look at things. He could not spot the details in a scene. It was as if he couldn't use his eyes.

- "You can't see it?" Cécile asked. "But you've got eyes! Ok so you are going to do like me. Hold your arms out in front of you and wiggle your fingers. Can you see them?"
- "Yes"
- "Now look beyond and fix your gaze on a specific item: the door handle, for example. You are looking at the door handle, but can you still see your fingers?"
- "Yes"
- "So let's continue our investigations! Spread your arms out, as though you are opening the cupboard doors but continue to wiggle your fingers making sure you can see them without actually looking at them. Open your arms wider and wider until you can't see your fingers anymore. Do you understand?"
- "Yes"
- "Now slowly bring your arms together but stop as soon as you can see your fingers again. This is the limit of front and behind (forward-facing boundary)."

This eye limit is the barrier which separates what is in front from what is behind. Like this each person can find their "latitudinal limit". By drawing a chalk line on the floor which corresponds to the position of the outstretched arms, this horizontal line forms the forward-facing boundary. Cécile was inspired by the book "La Gymnastique corrective" ("Corrective gymnastics") written by Louis Grozelier and Dr Balland. The book explains what is in front and what is behind a person.

The picture is taken from the book “La Gymnastique corrective” by Louis Grozelier and Dr Balland

To experience this spatial positioning, Cécile suggested that the child should move his feet; two steps forward, two steps backward and reconsider. To her surprise, whilst doing the exercise with the child, Cécile suddenly felt, for the first time in her life, that she too knew where she was. This brought back childhood memories of hearing someone talking about her, saying “Your daughter seems to have her head in the clouds”. This left her wondering what they were talking about: what did it mean to have one’s feet on the ground or one’s head in the clouds? Of course, she never got an answer, which left her with a feeling of not belonging anywhere. But as she was doing the same actions as the child, she had the feeling that there was a wall behind her. For the first time in her life, she felt her bearings. This came as a revelation for her, as did many other body movements invented for the method.

Both children and adults can experience their own similar revelations during this learning session in a comfortable environment they may not have experienced before: “they feel comfortable, and this comfort is not a luxury” according to Bénédicte Ariès who had contacted the association in order to help her children, and who had observed the benefits of the method in their schooling and in their behaviour. First a member of the association, she later became its president.

Overall, Cécile Patin’s method helps people to know more about themselves, to put order and rigour into what they say and do, and to make the connections between these two actions. What they gain above all, and what opens up new opportunities, is to succeed at last in being oneself and trusting oneself. It is this confidence which Cécile lacked and which she spent her entire career in helping others to gain.

From losing her voice to encountering that pupil at Saint-Martin-de-France, from her training as a corrective gym teacher to her position at Coye-la-Forêt, and also from her own experience and her own learning problems, and all the children she helped to discover themselves, and her own thinking that she experienced: for Cécile, all of these were sources of inspiration to develop and enrich the method Thinking experienced through body movement. Because she was sensitive to things and had a strong personality, she managed to transform her weaknesses

into strengths in order to help all those who had had the same experience and whom Cécile understood better than anyone else. Cécile passed away on 25th November 2012, but she has left us a most precious legacy in the form of her method, which continues to improve the lives of many people and which it is important to carry on.

Agnès Irrmann Patin, Cécile's daughter, experienced the same frustrations. Her school career was sometimes just as difficult as her mother's. She has carried on her mother's work with dedication and has added the fruit of thirty years' experience to the original method. Born in 1958, Agnès has become a group leader, a teacher, a trainer, and a director at the MCP association.

Speech given by Colette Laurent for the 20th anniversary of the association in 1995

It is a great pleasure to see us all united in order to celebrate the 20th anniversary of our association. And, by the same occasion, show Cécile our consideration and affection, indeed without Cécile there would be no "Thinking experienced".

Thinking experienced through body movement a rather mysterious name, particularly 20 years ago! "What is it? What does it mean? What is it used for? Is it some sort of cult?" were some of the questions we were asked. To begin at the beginning, perhaps I should talk about my own experience. 30 years ago, I was suffering from back ache. The doctors told me to do medical gymnastics and I went to one physiotherapist after another until, one day, I met Mrs Patin. The way she went about things and the way she described things spoke to me because she always explained a movement before carrying it out. By thinking before moving, my back seemed to agree with what Mrs Patin wanted it to do. I didn't know then just how far my back was going to follow Mrs Patin!

Cécile needed someone to help, so at the end of one gym session she asked me if I would agree to be the person to welcome the participants at the Child Welfare Centre. Different types of therapy were organised at the Centre where Cécile held her classes. Large numbers of children came for remedial treatment and Cécile noticed that many of them were incapable of following the instructions they were given. These youngsters knew that they had a head to think with and a body to move with,

but they didn't know how to link the two. So, by getting them to do some exercises which were simple to carry out once they had been given some thought, Cécile helped them to understand that their heads told their bodies what to do. Little by little they developed their psychomotor principles, which can be summarised by just three words: perceive, conceive, act. To make it work it was always based on body movement.

Evelyne Baillot, a psychotherapist who was a member of the team, would often put her head round the door of the gym and watch what was going on with real interest. She watched Cécile at work so often that one day she told her that she must not keep her method to herself, she must make it known, and that is how the association Thinking experienced through body movement came into being – the beginning of an adventure.

The aim was to help children capable of learning but who were having difficulty at school. Very quickly workshops were organised. At first it wasn't easy, but with the help of Colette Spinat, psychologist, and Odile Bergé, speech therapist, who sadly passed away at an early age, the method gained renown and the association made its name.

Tutoring sessions were planned and workshops for groups or individuals were organised according to needs.

Additionally, Cécile organised and ran gym sessions for people of all ages: body movement for infants (know your body), corrective gym (for juniors and adults), introduction to acrobatic skills for youths, analytic gym for adults, all with the same aim: know yourself better, learn how to work and how to relax, when to make an effort and when to rest.

Twenty years have gone by and there have been so many interesting encounters!

I would like to thank everyone who believed in Thinking experienced through body movement and who have helped the association in one way or another. And "like father, like son" — or rather "like mother, like daughter" — Agnès is carrying on the good work. We now have a young dynamic team, committed to Thinking experienced through body movement, who bring with them their ideas, their resources, and their talent. It is a great satisfaction. Thank you, Cécile, for this wonderful adventure!

Agnès Irrmann Patin

I had a hard time at school. In those days we learnt to read and write during the last year of infant school (maternelle). The three years that I spent at that school were happy ones. I look back on them with pleasure. We learnt to paint and write letters with a paintbrush. We did a lot of manual activities: sewing, modelling, weaving, *etc*.

When we moved on to junior school, my friends and I were placed directly into a second-year class (CE1). That's when going to school started to be a chore, because although I could read and write I was still only 6 years old, and the bar was set too high. My results were (just about) acceptable so I didn't need to be held back a year, but continued "on probation" they said. I only ever managed average marks. When the head teacher came to hand out our notebooks which had been marked, she said "Miss Patin, if I gave my cat a feather his writing would be better than yours!" That is most certainly the reason why I now like to help children with their writing skills.

I continued to be one year ahead right up to the end of secondary school (terminal): every year I was put into the next class which did nothing to improve my inferiority complex. I never ever put my hand up to answer a question because I was convinced that I didn't have the correct answer.

In 1969, when I was 11 years old, I went to one of the first two-week courses organised by my mother and Odile Bergé, where we took turns at body movement and schoolwork. I think that course helped me to keep afloat. When I was 15, I took part in my first training session for Thinking experienced through body movement along with some adults. Since then, I have never ceased to take charge of different courses and workshops for both children and adults.

After passing my exams (Baccalaureate), my only desire was to leave school and get on with life. I was 18 when, without any warning, I was asked to replace a schoolteacher at the Saint Louis school in Pontoise. Only just having become an adult, I found myself in charge of a class of six-year-olds after the autumn half-term holiday. I wasn't particularly worried because it was only supposed to be for one week. But what had not been planned was that I had to continue for the entire year! The experience was extremely rewarding except that I would have liked to be able to take my class out of doors on a sunny day or let them climb

onto the tables when I was explaining ‘on’ and ‘under’, but that (of course) was not allowed.

It was then that Colette Spinat offered me the opportunity to take part in a new venture which was the launching of an alternative school, with some motivated parents who wanted to educate their children differently. This ‘school workshop’ called ‘La Vague’ (The Wave) lasted for 3 years, it also included teenagers who had dropped out of school but who were to follow a correspondence course. I was in charge of the ‘little ones’, along with their parents, and we had some lively meetings with heated debates and clever spur-of-the-moment ideas. It was then that I came up against the importance of creating a learning space which did not look like a classroom.

During these three years I followed a course on Expression Semiology (free expression through painting) with Arno Stern in Paris, I obtained a diploma as an activity organiser (BAFA: brevet d’aptitude aux fonctions d’animateur), I got a first aid certificate, I took a course in Education Sciences at Vincennes, and I continued my training with Cécile in educational and corrective gymnastics, using her deconstructed approach to the analytical technique.

Following that adventure, when I was 22, I went to a circus school run by Annie Fratellini and Pierre Étaix. I had already been taking part in dance, gymnastics, acrobatics, and theatre training for several years. At the circus school I took lessons in classical dance (ballet), acrobatics and tightrope walking. I led introductory courses for children in circus skills, the aim being for whoever wanted to come and have fun and perhaps try out something new. I wasn’t preparing a show: I just wanted the children to enjoy taking part, and any success was for their own satisfaction.

Cécile broke her leg in 1981, and consequently I was to conduct my first training course in Thinking experienced through body movement for adults. I was then 23. From then on, I ran a good number of training courses and campaigns with participants of all ages in a wide variety of situations: illiterate, young adults looking for employment, unemployed people receiving assistance, master’s students specialising in STAPS (sciences et techniques des activités physiques et sportives), group leaders in extracurricular activities, body-awareness educators, and help-

with-homework volunteers. I was invited into prisons, childcare advice centres, an ESAT (a help-through-work organisation), the "GRETA" adult education programme, and a nursing home for disabled adults.

In 1984, I had the great pleasure of following a training course run by Bernadette Gueritte-Hess (speech therapist and psychomotor therapist) at an institute for young deaf people at Saint-Cloud. Bernadette had taken part in the Study Group on the Psychopathology of Logico-Mathematical Activities (GEPALM). Here she was using all her experience for a course she had entitled "preparation for mental arithmetic with deaf children". She taught us marvellously well how to experience abstract notions such as time, sequence, *etc*., with children we couldn't even talk to. We could only use body movement and gestures.

After that I took a two-year course in mental management (by Antoine de la Garanderie), which is an approach to specific teaching techniques. I particularly appreciated this course run by Marie-Françoise Chesnais. It opens the horizon to all people concerned with teaching; to begin with:

- students who have not all had the same schooling, and therefore sometimes listen, hear, and see things differently;
- and those who think that because something works for them then it will necessarily work for others.

After that I did a training course in Brain Gym® (a programme of educational kinesiology) which allowed me to widen my field of investigation with children by helping me to know how differently brains can function. I regularly use Brain Gym® exercises when helping pupils with writing. Over time I have attended classes and lectures on suggestopedia, primitive expression (art therapy), relaxation, yoga, 'cardiac coherence', and Positive Communication.

I was a Physical Education teacher for eleven years teaching children from 3 to 10 in several independent schools. In 2015, when I was 57, I passed a test with the FFEPGV (Fédération Française d'Éducation Physique et de Gymnastique Volontaire, a non-competitive sports federation for adults) and qualified as a sports recreation leader in gymnastics and body expression. I then discovered that this association, which is mainly known for its first-rate gym activities for adults, also provides training courses in related fields. I signed up for a course to coach aging adults

to maintain their sense of balance and therefore avoid falls. I trained in gentle fitness routines and qualified as a coach for people suffering from long-term illnesses.

Since 2016 I have also become a teacher trainer with the Lions Club International Foundation. I train educational teams, within their own establishments, to help them set up a teaching program to help the children and youths for whom they are responsible. Teachers and educators learn how to use the program 'Prêt Pour La Vie' (a social and emotional learning program) developed by Lions Quest that integrates character education, drug, and bullying prevention, and preparing for 21st century life skills. It is an interactive course based on group collaboration and games. I also run sessions with children.

All these different training and learning schemes have helped me to improve the way I present Thinking experienced through body movement. Psychomotor actions promote mental procedures. From the very beginning, children develop mental faculties by stages from crawling, walking on all fours, to finally walking upright. For those children who have learning difficulties, they will use their bodies to experiment with different possibilities and to stimulate their mental faculties such as forwards and backwards (thinking about the future and the past), locating right and left (sagittal plane), alternating one action then another, thinking about several things at the same time or maintaining concentration for a certain length of time, *etc*.

Cécile Patin uses the terminology of a gymnast to classify the mental procedures: thinking in abduction and adduction, circumduction, the frontal and sagittal plane, *etc*. These mental abilities are necessary when learning to read, to count, and to use charts. All this is explained in the Technical Manual.

Cécile made a chart with 12 suggestions for mind and body games using this terminology: it reflects her philosophy regarding people and the approach she has always used. Here are three of these suggestions:

- Mental movement can be compared to muscular movement;
- Mental energy can be compared to muscular energy;
- Mental movement generates heat just like muscular movement;

The mobility of the mental thread and all its different movements made Cécile think along geometrical lines:

- If a mental thread can go up and down (vertically),
- and if it can go from left to right and vice versa (horizontally),
- then it should be able to "go round" an idea.

For example, when you see that a train leaves at "12.50" you read the information as though you are reading the hands of the clock, *i.e.,* forwards. But when you see that the train leaves at "ten to one", the mental thread leads you backwards. This means that your thoughts can move one way or another. We can talk about mental circumduction.

In the preface, Martine Deneuville talks about Cécile and her personality. The following account talks about the method and its application.

An adult participant's account : Sophie Pantaléoni, a schoolteacher

Several years ago, I was asked to help a child for who didn't fit in with traditional schooling. My job was to inculcate school basics for him to be able to join a regular class. In spite of all my efforts, I couldn't find a school that would accept my charge. After I had been refused over and over again, my research finally introduced me to Colette Spinat, an extraordinary psychologist, who was a member of the Child Support Centre in Pontoise. She immediately suggested a solution to my problem: she told me to take him for sessions with the method Thinking experienced through body movement. She believed that the body movements would help him with his school problems. I had never thought about that type of help before talking to Colette. Indeed, I had never thought about private tuition. If, at first, my incentive was simple curiosity, the welcoming attitude of the staff quickly convinced me to try a session.

That is how I found myself putting on my sports shoes all prepared to run around a gym on the banks of the Oise River. I knew that I may be required to do a forward roll or two and some skipping, but I had no idea of the real contents of what a session could include!

Right from the start I was completely bewildered, wondering what I had let myself in for. Me, an adult, a university student, having someone telling me about odd and even numbers! Was this a prank or someone's

dominance fetish? Neither one nor the other but a huge kick to my excessive pride. Since that session I have never tackled an exercise without trying to find a solid base on which I would be able to fix myself.

I ended the session sufficiently armed to launch myself, come what may, into a new experience. Agnès Irrmann Patin suggested that I organize learning support sessions in Maths, French, and Thinking experienced through body movement. That's how, for several summers running, we organized sessions for youth development. The success of this venture made me progress even further.

Why not create a structure where each youth finds the answer to their needs? A school which is small enough for each pupil to be individually taken care of. It should be possible! A few pupils per class, teachers determined to achieve success for everyone and all with the same amount of determination: yes, it was possible! A friend got herself involved in the Thinking experienced through body movement adventure soon after me, and together we ended up taking on quite a heavy load.

Undoubtedly Thinking experienced through body movement triggered a whole series of events which have shaped my career and which I like to believe is still progressing. In my French lessons, since teaching French is my speciality, I used this groundwork which I had discovered during my courses and partnerships to teach, or revise, grammar.

The following account is by a mother who first of all wanted her children to make better progress, and having seen how they benefitted from the method she decided to do a course herself as an adult.

A parent's account : Bénédicte Ariès

When my daughter was seven years old, she was oversensitive at that time. She didn't like school and found it difficult to finish a writing exercise in the given time. She was getting distressed. Although no particular handicap had been diagnosed, her progress up into the next class seemed daunting; she often confused 'loin' and 'lion' after writing the words. An assessment of her motor skills and checking she knew her left from her right found no need for remedial education. So, in 1992, we decided to sign her on for a weekly workshop with Thinking experienced through body movement while continuing her schooling. At the

end of the first month, she was able to do her homework without help, and at school she was no longer in trouble for being too slow. She finished junior school comfortably, even brilliantly. Nevertheless, she did ask if she could do another workshop to prepare her entry to secondary school, and this did reveal some gaps in her knowledge and her know-how. She triumphantly announced that she had at last understood, amongst other things, that "the north of a map was always at the top of the page". Even though she finished her second year with 'merit', she still asked if she could do another session to prepare for the next class up (4ème). For us, her parents, the benefits of this particular session concerned her teenage development as much as her schooling, helping her develop her body as much as her brain. After that, her schooling was no longer a problem and learning was pleasurable.

That same year, in view of such a positive experience for his seven-year-old sister, we decided to let her little brother do a workshop of Thinking experienced through body movement during the third term. We explained to him that it was "gym for thinking" because he was only three and a half and coming to the end of his first year at infant school. He was a bit unsociable and shy with people outside the family, but after just three sessions he had changed so much that our neighbours asked us what had happened: he had started to speak to them and even smile! He found his first year at junior school, in 1994, particularly easy, but we decided that he would continue weekly workshops of Thinking experienced through body movement throughout the school year. We believed that it would help him acquire, from the very beginning, a certain ease in his schooling that his sister only achieved after two stressful years.

Having witnessed just how effective the method proved to be for my children, I willingly recommended it to friends.

In 1997, A., a twelve-year-old pre-teen girl was having problems with maths. She was in the first year of secondary school and although she had learnt to recite her times tables by heart, and how to do a three-digit division mechanically, she couldn't really grasp the sense of what they meant.

She attended a workshop at the beginning of the summer which helped her development, and a few sessions of speech therapy support

made her second year a total success. (She had already been having speech therapy for several years).

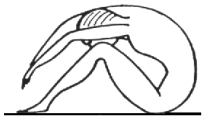
F., a little boy, who had been having speech therapy since he was 6 years old (1st class of junior school) was beginning to develop an aversion to schooling. The family didn't live in the Paris area, but his parents were beginning to feel desperate so, when he was 8 (3rd year of junior school) they brought him to Pontoise to take part in a workshop of Thinking experienced through body movement. The results were so positive in helping to unblock the situation that they decided to come again the following year for another session. They even organised their time so as to offer his little sister a workshop, before her 2nd year at junior school, in order to avoid any problems she might meet when learning to write.

S., a big strong boy for his age, but who was too easy-going, did weekly workshops for two terms when he was 9 years old. Unfortunately, family problems put an end to these sessions. Nevertheless, he coped with junior school acceptably but ran into problems during his secondary schooling: he couldn't concentrate and lacked self-motivation.

Totally convinced by these results of the benefit of Cécile Patin's method, I decided to sign on myself for a workshop of Thinking experienced through body movement in 1996.

One result of this training session was a relief from the fatigue caused by working at a screen and keyboard, but another was a desire to make this method better known: it quickly helps acquire those essential educational notions that I hadn't been able to pass on to my own children.

APPENDIXES



Preparing for a "driving test" to drive along school roads

Our brain is the driver of our body (our car)

Learning about your body

- Discovering the different parts of your body: I am made up of sections, and joints
- Making a detailed inventory of your body organs and their functions
- Moving and playing with your body safely and in harmony with your actions

Learning about your brain

- Thinking, forming judgments, being capable of logical reasoning
- Listening correctly, repeating back, understanding what has been said
- Seeing, feeling, expressing needs
- Doing what is asked, then in turn, giving clear instructions to others to ensure their success

Practising the rules of the road

- Experimenting, beginning again, repeating constantly until the ride is smooth
- Making the connection between what's physical and what's mental
- Using both sides of the body and the brain
- Driving on your own: being responsible for your own vehicle (no whispering the answers to others, nor copying theirs)
- Learning to overcome problems

Respecting other drivers and the rules of the road

- Recognising other people's values
- Letting other people make their own mistakes
- Accepting a mission: "I'm going to do..."
- Reporting the result: "I did..."

Finding your bearings, situating yourself in time and space, in the room, and on a worksheet

Personal goal: *to be completed by each child*

Peptic gym

During a course, every day after lunch, the children put their mats down, spread out on the floor. It's 'quiet time' – a few minutes calm to prepare for some more concentrating. The activity suggested here uses exercises from educative and remedial gym sessions. Exercises 2 to 5 can serve as a basic set of exercises to keep the vertebral column in shape at any age.

Exercise 1: **I walk round the mat**

The child stands near their mat and carries out the instructions given by the leader. This 'locating in space' activity becomes more and more challenging as the children progress.

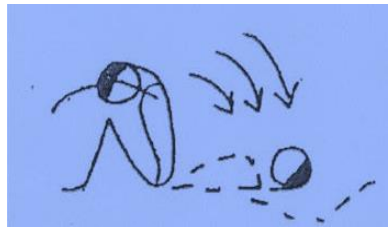
a) I listen and do what I'm told:
   - I walk round the mat;
   - I stand in front of the mat;
   - I stand behind the mat;
   - I stand to the left, or right, of the mat.

b) I do a half turn and say where I am in relation to the mat.

c) I give the instructions and check that the others are doing it right.

Each exercise is to be carried out 5 times. The leader makes sure that what is done and what is said is correct, as well as the fact that when a child lies down on their mat, no part of their body is off the mat.

Exercise 2: **I lie down**



The child sits on the edge of the mat and gently lowers first their back, then their head and finally their arms.

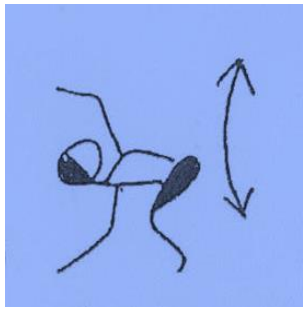
- The leader says, "First time".
- The leader says what to do at the same time as doing it themselves: "I'm placing my bottom on the mat, my back, my head, my arms". The whole group makes the same moves at the same time as the leader.
- Then the leader says, "Sit up!" and goes through the procedure again saying, "Second time".

- And so on up to 5. The leader then says, “Fifth and last time” and at the end of the procedure, the children remain on their backs, ready for the next exercise.

Exercise 3: **I digest**

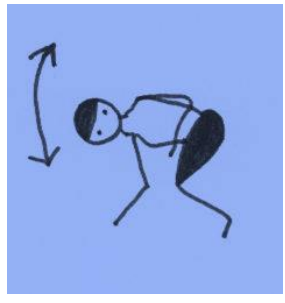
This is a sort of gut-twister by rotating the abdomen and the chest.

a) Rotating your abdomen: lying on your back, lift your legs up in the air, but not stiffly: keep the knees slightly bent, but your feet must always be in sight. Arms stretched out at your sides, move your legs to the right then to the left without letting your back lift up from the floor. If possible, let your legs touch the ground before turning the other way.



- The leader says, “First time”.
- The leader announces each move, “Turn to the right!” and the children all let their right knee touch the ground on the right (without moving their backs from the mat).
- “Turn to the left!” and the children swivel their abdomen to place the left knee on the ground to their left.
- At the end, the leader says, “Fifth and last time”.

b) Rotating your chest: lying on your side, almost in a foetal position but with the knees at a right angle. The arm that is on the ground is stretched out sideways. Your other arm is resting on the side of your rib cage and your elbow is bent with your forearm reaching down and your hand on your tummy. This arm must not move at all, it is fixed.



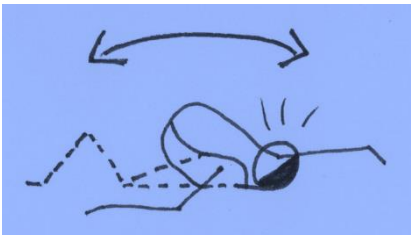
Stretch your chest by swivelling backwards (without moving your arms) as though you want to put both shoulders on the ground, then swivel back, moving further over than the initial position, as though you want to touch the ground in front with your chest (go as far as you can making sure that your hips don't move). Your arm is fixed so that only the vertebral column moves.

The leader says, "First time".
The leader gives the instruction, "Stretch your chest" and the children swivel the top of their bodies backwards as though they want to put their shoulders on the ground.
The leader says, "Squash your chest" and they swivel the top of their bodies forward as though they want to put their chest on the ground.
At the end of the series, the leader says, "Fifth and last time".

N.B. then turn over onto the other side and do 5 swivels facing the other way.

Exercise 4: **I wake up**

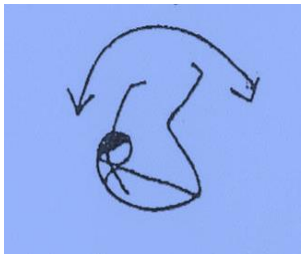
Lie on your back with your legs bent, your feet on the floor, your arms at your sides with your hands either side of your pelvis. Throw your legs up, over your head, while breathing out. Your feet won't necessarily touch the ground. Then bring them back to the initial position.



The leader says, "First time".
For each new roll, the leader says, "Go!". The children throw their legs behind their head and return to the initial position.
For the last roll, the leader says, "Fifth and last time, roll back into a sitting position".

Exercise 5: **I rock backwards and forwards**

From a sitting position, rock backwards and then return to the sitting position.



The leader says, “First time”.
For each new roll, the leader says, “Go!”
For the last roll, the leader says, “Fifth and last time, then stand up”
After the last roll, stand up, ready for the next exercise.

Exercise 6: **I have some fun**

Do this sequence five times: stand – sit – rock back– sit – stand.

The leader says, “First time”.
The leader announces each move, “stand – sit – rock back – sit – stand”.
At the end, the leader says, “Fifth and last time”.

From the second day on, each child in turn becomes the leader and gives the instructions. They should have mastered, and remembered, the logical sequence and be able to direct the group.

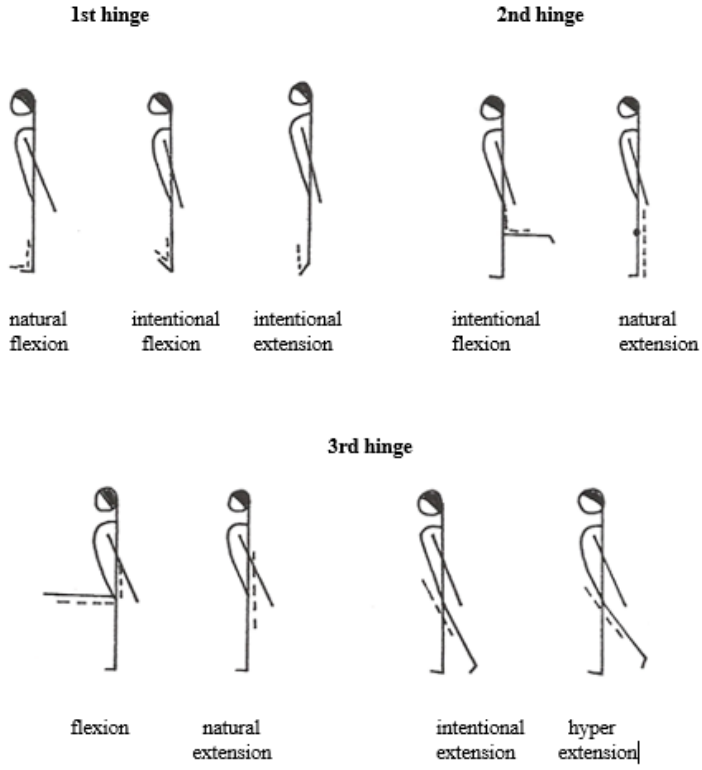
Investigative work on the bending and straightening of the first three hinge joints

During her sessions of corrective gymnastics, Cécile Patin was able to help children correct their posture in a natural and graceful way after making a detailed study of their body axis. She started appropriate training by having the children stand upright: the straight line made by their body is called an extension and a bent line made by their body is called a flexion. Then she drew some stick figures on paper and asked the children to trace the body axis with a dotted line.

Static study

Ankle: in a standing position, the ankle is in a natural flexion. Keeping your leg straight, lift your foot up to make an intentional flexion, then point it down to make an intentional extension.

Knee: in a standing position, the knee is in a natural extension. Bend the bottom half of your leg, from your knee, backwards without moving your ankle or your hip to make an intentional flexion.



- An extension of your ankles makes you walk on tiptoe.
- An intentional flexion of your ankles makes you walk on your heels.
- An intentional (back) flexion of your knees makes you run with ‘heels to buttocks’.
- An intentional (front) flexion of your knees makes you walk with ‘a wooden leg’.
- An intentional flexion of your whole leg from your hips makes you walk with ‘a goose step’.

N.B. an intentional extension and a hyper extension from your hips do not make you walk at all.

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