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[Who I am](#)

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Les maths comme je les aime ... et comme je les raconte ! 😊

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Math as I like it /5a



Hi-Ati and the creation of digits

Where you'll finally learn why zero is written "0"!

No, of course, that's NOT how it happened!
"Hi-Ati, or the creation of digits" is a story I wrote based on Kipling's "Just So Stories"... but without his talent!

Published in 1980 by Luc Thanassecos for "l'Impensé Radical," it's just a story, but it has long served as a way for me to introduce numerals.

Please be kind!

And please don't be angry:
for the record, a mathematician who was walking past the window of "l'Impensé radical" stopped dead in his tracks in front of what was at the time a poster... then he stormed into the bookstore, took poor Luc to task, and shouting that it was unacceptable to treat such a serious subject so lightly!



One of my daughter Laureline's drawings for my book "So, according to" (in a different context!) Being able to officially call her father crazy... the dream 😊

A long time ago, long before Europe existed – in those days, I believe it was still attached to Africa – people lived in caves, and so did their families. To feed themselves, they killed fish and bears with their harpoons, which were large, very sharp, and very hard wooden poles.

Of course, they didn't know how to count, since no one had invented digits yet!

Hi-Ati and her parents lived in a small cave near a large river. Hi-Ati was a very intelligent little girl, whose name meant "young, overly curious girl." She was always interested in everything. One day, her father came back from fishing and placed his harpoons and fish right in front of the cave entrance. And on that day, Hi-Ati and her father created digits.

When she came out of the cave, Hi-Ati saw the harpoons and the fish. She looked at the harpoons, then the fish, then the harpoons again, and then the fish again, because she lived up to her name, and she exclaimed:

"Look, Dad, it's funny, there are... the same !"

She meant "as many," but the word "as many" did not yet exist. Her father – his name was Ji-Déhem, which means "Wise Man" – didn't quite understand. But since he was very wise, he asked Hi-Ati to explain. She thought for a moment, then placed a harpoon against each fish, like this:



And she said to her wise father:

"You see, there are no fish without harpoons, and no harpoons without fish!"

Then Ji-Déhem, who was not called "Wise Man" by chance, knew that his little girl had invented something important. He said:

"That's a great observation. You're becoming very observant! And I have an idea: tomorrow, if I catch 'all that' fish, I won't show them to you, but I'll put 'all that' harpoons in front of the cave, next to the big rock, and you'll prepare 'the same' of banana leaves. Mom will be surprised, won't she?"

(He said "all that" and "the same" because he didn't know any other words, but Hi-Ati understood perfectly well. The banana leaves were for cooking the fish: they were wrapped in them and slipped under the embers. It was very good.)

"Yes... but... what if you don't have enough harpoons? Or what if you went hunting instead of fishing? I'll be wrong and Mom will laugh at me!"

Ji-Déhem smiled slightly, to show that he was teasing his sensitive little girl a little, but since she wasn't entirely wrong, he suggested:

"Then, instead of bringing back 'all that' harpoons, I'll draw them on the big rock. And next to them, I'll draw a fish or a bear, so you'll know..."

And he added, to make Hi-Ati grimace:

"Or I'll draw a carpoutzi. And you'll know that you have to go and get 'all that' carpoutzis for dessert!"

(The carpoutzi no longer exists: it was a large, very heavy green fruit that grew near the brambles, and it was the job of the little girls to bring them back to the caves).

Hi-Ati hated brambles, but she had to admit that "all that" harpoons could be used to indicate anything, even carpoutzis to bring back. All you had to do was draw "anything" next to it!

And for the rest of the afternoon, Hi-Ati and Ji-Déhem practiced drawing "all that" harpoons on the big rock. Meanwhile, Hi-Ati's mother was preparing a delicious fish soup, because she was very good at making it and also because she was out of banana leaves: naturally, Hi-Ati had "forgotten" to pick some.

Ji-Déhem began by drawing this:



and gave each harpoon a name. He called them "shir," "ot," "tir," and others. I don't remember the names very well because over the centuries they have changed: now they have become "one," "two," "three"...

Ji-Déhem decided to stop at |||||, because after that, he couldn't quite make out what "all that" was. And even so, Hi-Ati wasn't satisfied: she was never sure whether she had read ||||| or |||||, for example. So she had another idea, which she politely explained to her dad:

"Actually, Dad, maybe it doesn't matter if all your harpoons aren't the same size... after all, you can fish for small fish with small harpoons, right?"

And she drew this:

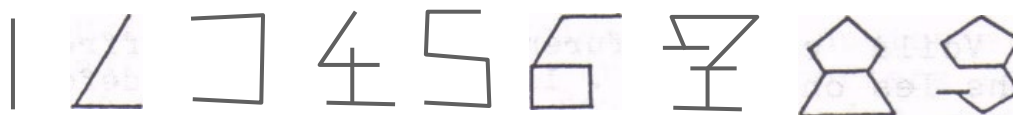


It was already easier to recognize. But Ji-Déhem had an even better idea – he was really very wise:



"You're absolutely right. But I don't have to draw all my harpoons stuck in the ground, do I? If I draw a picture with 'all that' straight lines – small ones and big ones – you'll understand that I've represented 'all that' harpoons, right?"

It was a very good idea, and Ji-Déhem worked with Hi-Ati to find drawings that clearly represented "all that" harpoons.


It took them a long time, because they had to come up with drawings that were easy to remember and reproduce, but different enough from each other. Finally, they drew this:



and they called them as before: shir, ot, tir...

For example, the drawing  meant that Ji-Déhem had caught as many fish as there were harpoons drawn in . If he said "I caught ot fish," it was the same thing.

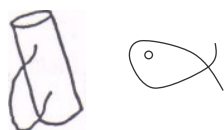
Ji-Déhem decided to call each drawing a "thra." They had to find a name for them. An object without a name is not very practical.

Hi-Ati had wanted to stop at , because after that there were too many harpoons to draw and she was perhaps a little lazy. So to annoy her dad, and also to make sure he would forget to create more complicated digits (that's a little trick that some kids still use!), she said to him:

"And when you go fishing, you don't always bring back fish... how are you going to draw 'no fish'?"

It was a good question. Not very respectful, but Ji-Déhem was too busy thinking to get angry. Finally, he suggested:

"I'll draw the bag I keep my harpoons in, but without the harpoons. Like this:



What hangs down the side of the bag is the rope for attaching it to the shoulder. Hi-Ati's mother made this bag. She was very skilled!

But Hi-Ati protested:

"It's too complicated. Just draw the top of the bag, like this:



And of course that's what they did, and they called the top of the bag "lat-i," which means empty bag.

Now we call it "zero."

As night fell, Hi-Ati and his dad went to enjoy the fish soup that was waiting for them, which was really delicious. Unfortunately, Hi-Ati's mom didn't let me share the recipe: her name (the mom's, not the soup's) was Tchor-Naïa, which roughly means "Kind but not always easy to get along with."

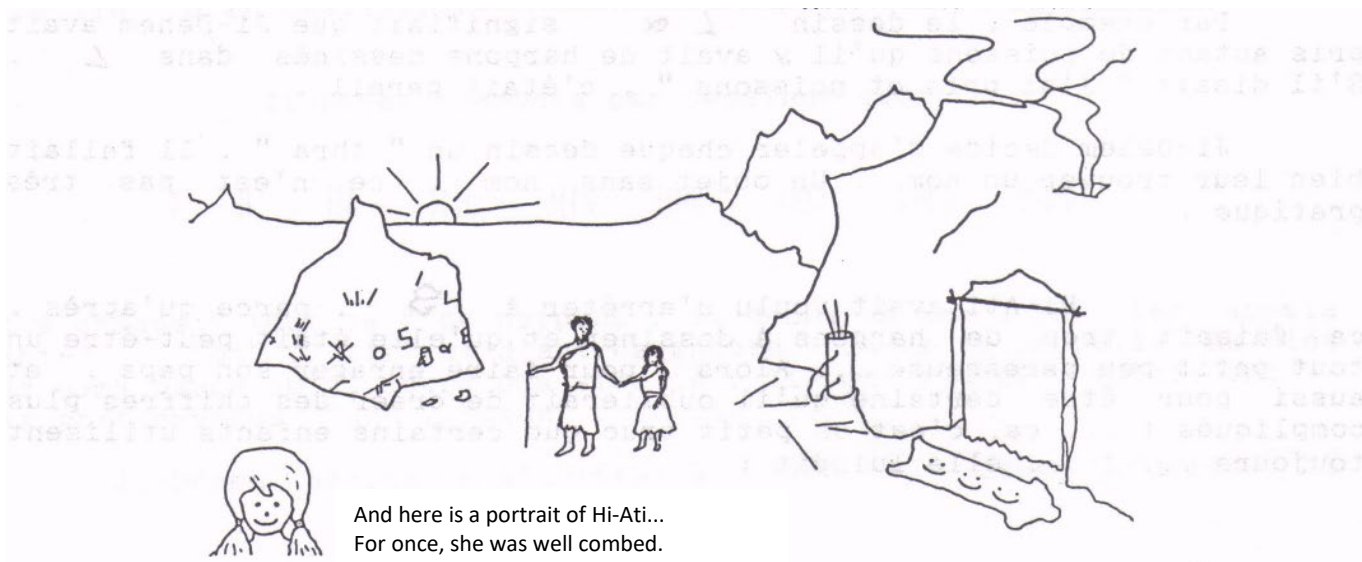
That is how the ten digits were created.

Since then, many people have written them down and ended up distorting them a little. They turned them into:

1 2 3 4 5 6 7 8 9 and 0

The drawing below shows Hi-Ati and his dad just after the creation of zero. You can see that the cave is very tidy because there is a rug in front of the entrance (actually, it is the skin of a small animal called a "doormat" that was hunted solely for this purpose. This animal no longer exists).

You can also guess that there is a delicious fish soup simmering on the fire because of the smoke coming out of the chimney. Tchor-Naïa's cave had won the tribe's competition for the most pleasant cave.



And here is a portrait of Hi-Ati...
For once, she was well combed.

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