

The RTM for the kids

Thanks to Mum, my favorite beta tester.

*Thanks to Stéphane Laborde for this marvellous RTM.
Hoping not to misrepresent its spirit.*

Sources are available at the time of publication on:
<https://github.com/cuckooland/Cuckooland-Project>

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Author's note

As a kid, you want to understand the world around you. You ask a lot of questions. As a teenager, you don't ask questions anymore, you're seething with anger ... and you talk about the "system" we must change. That's only natural, it's so obvious that something is wrong. And at the centre of the system – but also of the majority of the human conversations –, there's this thing called money ...

Who creates money, and for going to whom? Intuitively, a child quickly understands it: there's no equity in there, money is clearly a instrument of power which is in the hands of a few. So can we talk about democracy without feeling ridiculous? Some live that very well ... for my part, I never got used to it, money and democracy form a couple straight out of a humiliating and intolerable farce.

School should invite children to take a critical look on money, but it's not. Yet, there's food for thought, with substantive ideas like Basic Income, demurrage currencies, local currencies, RTM ... Why such humanistic, positive, heartening ideas are not taught at school? What a pity. Thus was born the desire for a presentation of the RTM intended for children.

CUCKOOLAND



Principle of symmetry





"One man, one vote!" I heard it in a song.

Elise

1

Oh yes, I know! It says that every man must be able to express its opinion on equal terms with each other. This is known as a principle of symmetry.

The fairy



2

I know symmetries: when we look in a mirror, we say to ourself that we could exchange reflect with the real world, we would not see the difference. So, we say there's a symmetry.

Elise

This principle of symmetry can be found in many sayings. You must know this one: "The right to swing my fist ends where the other man's nose begins."

The fairy

Yes I Do! And I also know one, very important: "Don't do unto others what you don't want others to do unto you."

Elise





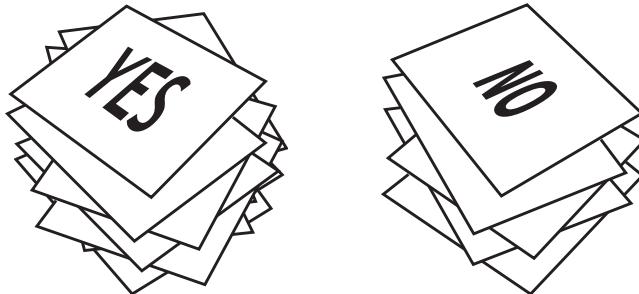
3

When humans work in a group and try to respect these principles of symmetry, we speak of democracy.
"One man, one vote", it's a song that celebrates democracy.

The fairy

Sometimes Mum goes voting: we ask everybody to go in a place to say "YES" or "NO" to a question ... or to give the name of someone with who we agree ...

Elise





Yes, thanks to a small piece of paper called a ballot,
they express their opinion.
But you seem to think it's ridiculous?

The fairy

A little, yes ... Mum says it's useless!
She says it's money that rules the world.

Elise

4



1

*It's true, money is used continually, on all kinds of subjects,
while voting is used from time to time, and on few subjects.*

The fairy

*The song should say "One man, one currency note", but it's
silly, we don't distribute a note like we distribute a ballot.*

Elise



5



You, humans, you are funny! "Money! Money!" You talk without stopping about a subject on which you know nothing. But when you feel it destroys your democracy, and even your life, you accept it, as if it was natural and inevitable.

The fairy

Not true! It's adults who accept things and always answer
"That's the way it is!"
I'll try to better know the money.

Elise

6

Principle of symmetry



6

You, humans, you are funny! "Money! Money!" You talk without stopping about a subject on which you know nothing. But when you feel it destroy your democracy, and even your life, you accept it, as if it was natural and inevitable.

The fairy

Not true! It's adults who accept things and always answer: "That's the way it is!" I'll try to better know the money.

Ella

It's true, money is used continuously, on all kinds of subjects, while voting is used from time to time, and on few subjects.
The song should say "One man, one currency note", but it's silly, we don't distribute a note like we distribute a ballot.

Ella

1

"One man, one voice!" I heard it in a song.
Oh yes, I know! It says that every man must be able to express his opinion on equal terms with each other. This is known as a principle of symmetry.

The fairy

5

Yes, thanks to a small piece of paper called a ballot, they express their opinion. But you seem to think it's ridiculous!

Ella

A little, yes ... Mum says it's useless! She says it's money that rules the world.

4

I know asymmetry when we look in a mirror, we say to ourselves that we see two things reflect with the real world, we would not see the differences. So, we say there's a symmetry.

The fairy

This principle of symmetry can be found in many aspects. You must know the one: "The right to swing my fist ends where the other man's nose begins."

The fairy

3

When humans work in a group and try to respect these principles of symmetry, we speak of democracy.

The fairy

"One man, one vote", it's a song that celebrates democracy.

Sometimes Mum goes voting: we ask everybody to go in a place to say "YES" or "NO" to a question ... or to give the name of someone with whom we agree ...

Ella



it depends
YES



The average store



as reference

I read that if we brought together all the euros in the world, we would count 10 million of million euros.

Elise

Yes, it's known as the money supply.

The fairy

It's enormous! 10 followed by twelve zeros!

Elise

One million of million, it's one trillion.
So there're 10 trillion euros.

The fairy

10 000 000 000 000



And you, how many euros have you?

The fairy

I have 10 euros.

It's pocket money that Mum gives me every week.

Elise

This pocket money, it's called an income. You can put it aside,
and constitute what is called a store.
In your opinion, 10 euros, is it a big store?

The fairy

2



3

It depends ...

When I have 10 out of 10 at school, it's a lot!

Elise

However, when you have 10 out of 20, it's not a lot!

The fairy

Yes, but if all others have 5, it's not so bad to have 10!

Elise



You have to choose what is called a reference, in other word,
choose something to get your position relative to it.

The fairy

I read that we are 330 million to use the euro, we should see
what I have in comparison to them.

Elise



4

We can calculate what would be an equal sharing of euros between all of you.

The fairy

That is to say, look how much is 10 million of million divided by 330 million.

Elise

5

$$\begin{array}{r} 10\ 000\ 000 \\ - 9\ \underline{9}\ 0 \\ \hline 100\ 0 \\ - 99\ \underline{0} \\ \hline 1\ 000 \\ - 990 \\ \hline 10 \end{array} \left| \begin{array}{l} 330 \\ \hline 30303 \end{array} \right.$$



It's a little more than 30 thousand euros per person.

Elise

So you are far from average store.

The fairy

I'll talk to Mum to ask for a rise!

Elise

6

The average store as reference

6

It's a little more than 80 thousand euros per person.
Elise
So you are far from average store.
The fairy
I'll talk to Mum to ask for a ride!
Elise

1

I read that if we brought together all the curse in the world,
we would count 10 million of million euros.
Elise
Yes, it's known as the money supply.
The fairy
It's enormous! It's followed by twelve zeros!
Elise
One million of million, it's the trillion.
The fairy
So there's ten trillion euros.

2



4

You have to choose what is called a reference, in other word,
choose something to get your position relative to it.
The fairy
I read that we are 350 million to use the euro, we should use
what I have in comparison to them.

3

It depends ...
When I have 10 out of 10 at school, it's a lot!
Elise
However, when you have 10 out of 20, it's not a lot!
The fairy
Yes, but if all others have 6, it's not so bad to have 10!
Elise

$$\begin{array}{r} 10\,000\,000 \\ \times 350 \\ \hline 3500\,000\,000 \end{array}$$

We can calculate what would be an equal sharing of curse
between all of you.
That is to say, look how much is 10 million of million divided by
350 million.
The fairy



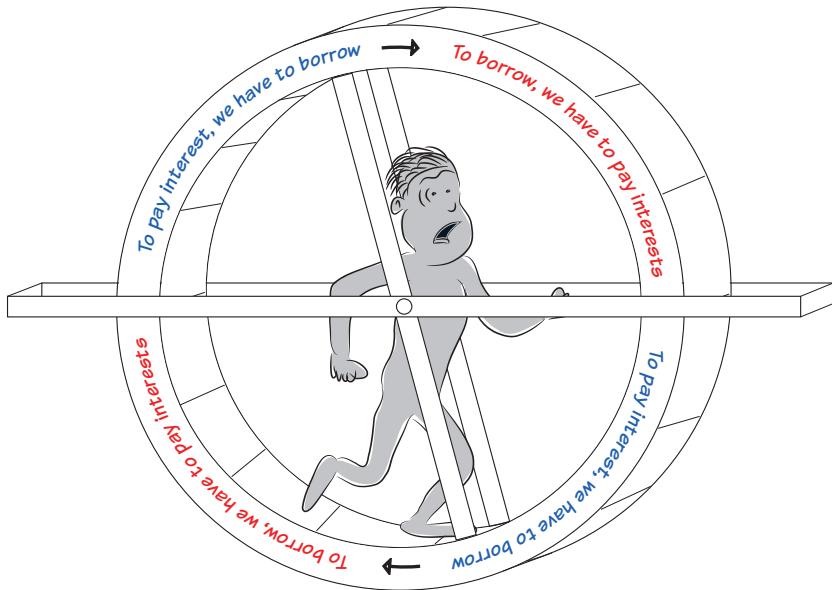
Mum told me: if you need money, you have to borrow it and then to repay it little by little. But you have to repay twice as much!

Elise

Yes, some have so much money they can lend part of it and, for repayment, they demand in addition what are known as interests.

The fairy

1





So the rich are becoming more and more rich and the poor more and more poor!

Elise

These are known as vicious circles. It's far from being a system that drags everyone to an equal power.

The fairy

2

The more I get money easily,
the more I have influence.

The more I have influence,
the more I get money easily.

The less I get money easily,
the less I have influence.

The less I have influence,
the less I get money easily.

3

Imagine at school: if I have an average mark below 10, then next month, I receive one 0 as punishment ...

Elise

Obviously, the chances of passing above the average are lower with this punishment.

The fairy

Month 1

Mark 1:	8/20
Mark 2:	9/20
Mark 3:	10/20
Mark 4:	11/20
Total:	38/80
Average:	9,5/20

below 10
hence punishment!

Month 2

Punishment:	0/20
Mark 1:	11/20
Mark 2:	11/20
Mark 3:	11/20
Mark 4:	12/20
Total:	45/100
Average:	9,5/20

while without punishment ...
Average: 11,25/20



... while those with an average higher than 10 are rewarded with a 20 out of 20!

Elise

The risk of dropping below the average is lower with this reward.

The fairy

Month 1

Mark 1: 11/20

Mark 2: 11/20

Mark 3: 11/20

Mark 4: 12/20

Total: 45/80

Average: 11,25/20

lower than 10
hence reward!

Month 2

Reward: 20/20

Mark 1: 8/20

Mark 2: 9/20

Mark 3: 10/20

Mark 4: 11/20

Total: 58/100

Average: 11,6/20

while without reward ...
Average: 9,5/20

4

In fact, the richest are encouraged not to spend very much,
to keep what is known as a capital, to take advantage of
the money they gain from lending it.

The fairy

But less rich people are also encouraged not to spend very
much, for fear of missing later!

Elise

That's right. We say that money is a store of value.
Yet, it's also meant to be a means of exchange!

The fairy



Yes, the purpose of money is to be exchanged! It's a hell of a contradiction, I wonder if we can solve this problem?

Elise

We have to reflect on this! Because rich and poor alike are trapped in these vicious circles: they are condemned to an increasingly violent and destructive competition ...

The fairy



6

Store of value

3

Means of exchange

6



Yes, the purpose of money is to be exchanged! It's a hell of a contradiction, I wonder if we can solve this problem?

The fairy

We have to reflect on this! Because rich and poor alike are trapped in these vicious circles they are condemned to an increasingly violent and destructive competition ...

The fairy

5

In fact, the rich are encouraged not to spend very much while the poor are known to be a capital to take advantage of the money they gain from lending it.

The fairy

Buy less rich people are also encouraged not to spend very much for fear of becoming poor!

The fairy

That's right. We say that money is a store of value. Yet, it's often meant to be a means of exchange!

The fairy

1



Mum told me if you need money, you have to borrow it and then to repay it little by little. But you have to repay twice as much!

The fairy

Mum told me if you need money, they can lend part of it and to repay it little by little. But you have to repay twice as much!

The fairy

... Mum told me if you need money, they demand in addition what are shown as interests.

The fairy

4

... while those with an average higher than 10 are rewarded with a 20 (out of 20).

The risk of dropping below the average is lower with this reward.

Mark 1: 10/20
Mark 2: 10/20
Mark 3: 10/20
Mark 4: 10/20
Total: 40/80
Average: 10/20

Month 1: 10/20
Month 2: 10/20
Month 3: 10/20
Month 4: 10/20
Total: 40/80
Average: 10/20

5

Imagine at school: If I have an average mark below 10, then next month, I receive one 0 as punishment ...

Obviously, the chances of passing above the average are lower with this punishment.

The fairy

3

Month 1:
Mark 1: 8/20
Mark 2: 8/20
Mark 3: 8/20
Mark 4: 8/20
Total: 32/80
Average: 8/20
below 10 hence punishment!

Month 2:
Punishment: 0/20
Mark 1: 10/20
Mark 2: 10/20
Mark 3: 10/20
Mark 4: 10/20
Total: 40/80
Average: 10/20
while without punishment ...
Average: 10/20

2

But the rich are becoming more and more rich and the poor more and more poor!

Those are known as vicious circles. It's far from being a system

that drags everyone to an equal power.

The more I get money easily, the more I have influence.

The more I have influence, the more I get money easily.

The less I get money easily, the less I have influence.

The less I have influence, the less I get money easily.

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The more I get money easily, the more I have influence.

The more I have influence, the more I get money easily.

The less I have influence, the less I get money easily.

The more I get money easily, the more I have influence.





1

And this beautiful book you have there, what was its price?

The fairy

It was expensive! 30 euros! Three weeks pocket money!

Elise



2

You say it was expensive because you compare its price to the amount of your pocket money.

The fairy

Of course, when it's compared to the average store of 30 thousand euros, it's not expensive!

Elise



3

You just highlight two points of view, two frames of reference.

The fairy

The first is when I compare the price with my pocket money ...

Elise

... and the second is when you compare the price with the average store of money, 30 thousand euros. Does one of these points of view seem to you better than the other one?

The fairy



I don't know. For example, at school, if I get a mark of 10, I want to know what it's worth compared with the mark of other children ...

Elise

Yes, you will calculate the average of the marks of other children and compare it with yours.

The fairy

4

But I'm interested to know what it's worth compared to my marks of other days ...

Elise

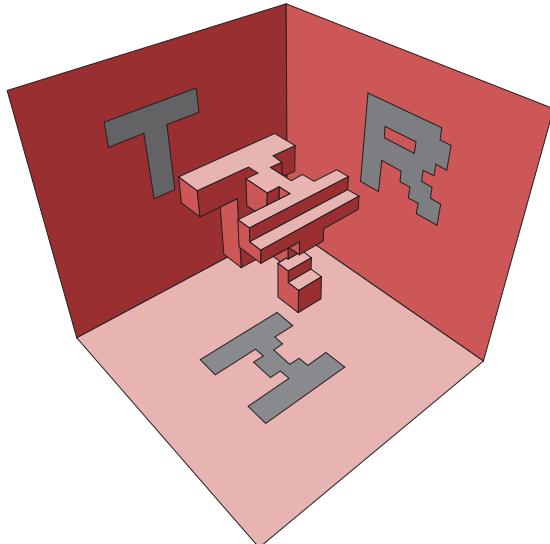


In fact, I can't see why we would favor one of these points of view, both are interesting!

Elise

It's true. However, you can verify around you, almost nobody knows the average store of money.

The fairy



5



But how is it possible? Adults never stop talking about money,
they must know the average store!

Elise

I believe for many people, money is just like gold or silver:
a material whose the existing quantity is not well known.
Yet it's false! They should demand strongly that it be
communicated to all.

The fairy

6

An income as reference

3

You just highlight two points of view, two frames of reference.

The Fairy

The first is when I compare the price with my pocket money ...

The Fairy

... and the second is when you compare the price with the average store of money, all thousand euros. Does one of these points of view seem to you better than the other one?

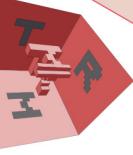
The Fairy

2

You say it was expensive because you compare its price to the amount of your pocket money.
Of course, when it's compared to the average store of 30 thousand euros, it's not expensive!

The Fairy

5



In fact, I can't see why we would favor one of these points of view, both are interesting!
It's true. However, you can verify around you, almost nobody
knows the average store of money.

The Fairy

6

But how is it possible? Adults never stop talking about money, they must know the average store!

The Fairy

I believe for many people, money is just like gold or silver: a material whose existing quantity is not well known. Yet it's valued! They should demand strongly that it be communicated to all.

The Fairy

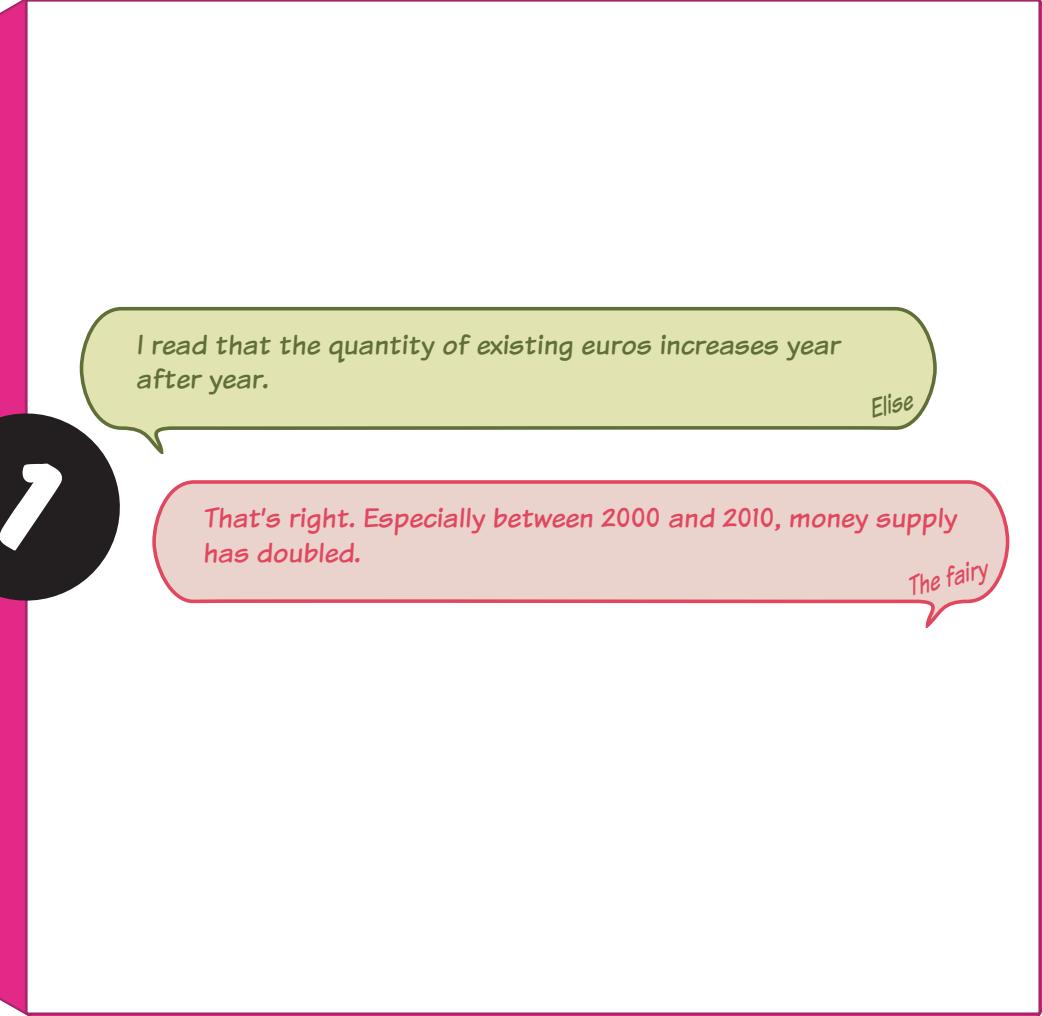
1

And this beautiful book you have there, what was the price?
It's very expensive 30 euros! Three weeks pocket money!

The Fairy

Unit of account





2

So, the average store has also doubled ... As if in 2000, the scoring system was out of 10, then out of 11 in 2001, and so on, to finally be out of 20 in 2010.

Elise

In a way, but note two things ...

The Fairy

3

First, the creation of money doesn't have that steady pace over time. There're sudden changes.

The fairy

As if in 2006, the marks were still out of 13, then suddenly in 2007, they were out of 18 ...

Elise



4

So if we want to compare a mark with previous ones,
it's complicated!

Elise

This is known as a temporal asymmetry.

The fairy

Secondly, these creations are made by a few people and only some others know about it.

The fairy

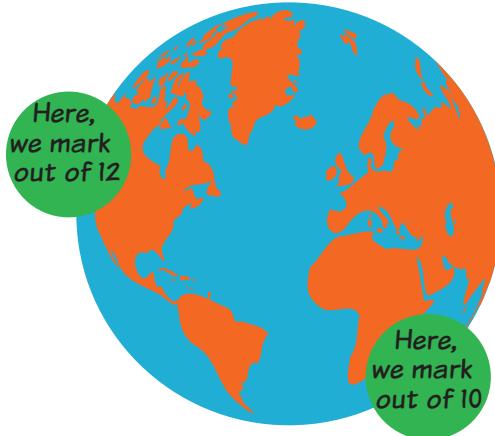
Some people mark out of 10 while others mark out of 12, and we aren't aware of it? So, a mark may seem huge, while it's not!

Elise

Yes. And that's how some prices may seem high but they are not that much. This is known as bubbles ... and spatial asymmetries.

The fairy

5





It's cunning! There's even no more need to copy its neighbour for cheating!

Elise

This would be funny if the consequences were not so tragic.
Because money should be a reliable unit of account.

The fairy

That's true, how can we accept to measure something with so distorting glasses!

Elise

large? or ... small?

6

Unit of account

3

First, the creation of money doesn't have that steady pace over time. There're sudden changes.

As if in 2000, the marks were still out of 18, then suddenly in 2007, they were out of 18 ...

4

So if we want to compare a mark with previous ones, it's complicated!

This is known as a temporal asymmetry.

2

So, the average stem has also doubled ... As if in 2000, the mark was out of 10, then out of 11 in 2001, and so on, it finally be out of 20 in 2010 ...
In a way, just note two things ...

6

large? or ... small?



5

Secondly, these creations are made by a few people and only some others know about it.
Some people mark out of 10 while others mark out of 12, and we aren't aware of it! So, a mark may seem high but they are asymmetric.



1

I read that the quantity of existing euros increases year after year.
That's right. Especially between 2000 and 2010, money supply has doubled.

It's cunning! There's even no more need to copy its neighbour for cheating!

This would be funny if the consequences were not so tragic.
Because money should be a reliable unit of account.

That's true, how can we accept to measure something with so distorting glasses!



It would be much simpler if the amount of euros did not change. Everyone would know that the average store of money is 30 thousand euros, wherever it is, and whatever the moment.

Elise

It's true, when we mark out of 5, then out of 10, then out of 20 ... it's a bit complicated! It would be simpler to always mark out of 20. However ...

The fairy

1

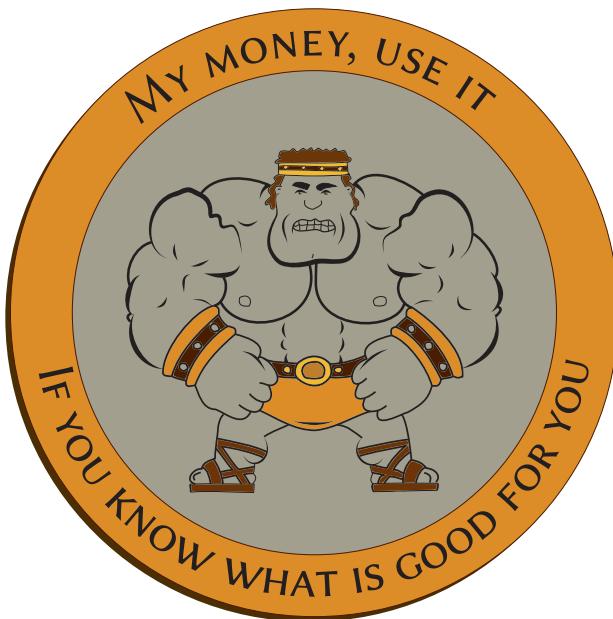
2

Originally, do you know who created the currencies?

The fairy

I think these are very strong people who created them. You were obligated to use these currencies, and to get them, you had to give something in return.

Elise





3

Would it not have been fair to create money and then distribute it equally, what is known as "respect a spatial symmetry"?

The fairy

Yes, of course, but that's all in the past,
nothing more can be done!

Elise

No, this injustice doesn't belong to the past, it continues ...

The fairy



You and all those yet to be born,
will you receive 30 thousand euros?

The fairy

No, it's true ... and it's not fair ... Despite that, there's maybe
a way to receive these 30 thousand euros and to keep
unchanged the total amount of euros?

Elise

4

6

How? By taking 30 thousand euros from others in order to give them to you?

The fairy

Yes, like Robin Hood, by taking from the rich and giving to the poor.

Elise

5



Make just trust some people to restore justice,
it seems very risky.

The fairy

Maybe we could find a trick that would help us ...

Elise

6

Spatial injustice

Temporal injustice

6

3

4

5

1

2

Make just trust some people to restore justice,
it seems very risky.
The fairy

Maybe we could find a trick that would help us ...
Elisa

How? By taking 80 thousand euros from others in order to give
them to you?
You, like Robin Hood, by taking from the rich and giving to the
poor.
The fairy

You and all those yet to be born,
with you receive 80 thousand euros?
No, it's true ... and it's not fair ... Despite that, there's maybe
way to receive these 80 thousand euros and to keep
unchange the total amount of euros!
The fairy

It would be much simpler if the amount of euros did not change.
Everyone would know that the average share of money is 80
thousand euros, whatever it is, and whatever the moment.
It's true, when we mark out of 8, then out of 16, then out of 30
... it's a bit complicated it would be simpler to always mark out of
20. However ...
The fairy

Originally, do you know who created the currencies?
I think these are very strong people who created them,
if you were obliged to give something in return.
Elisa



Would it not have been fair to create money and then distribute
it equally, what is known as "Respect a spatial symmetry"?
The fairy

Yes, of course, but that's all in the past,
nothing more can be done!
Elisa

No, this injustice doesn't belong to the past, it continues ...
The fairy

Universal Dividend



So let's increase regularly the number of euros ...
and each time, let's share these new euros between all of us!
It's somewhat as if the 30 thousand euros were repaid
gradually.

Elise

Yes, we should do this, in order to comply with not only a
spatial symmetry, but also what is known as a temporal
symmetry.

The fairy

2

We could say that everyone receives 10 euros a week?
Like my pocket money, in fact!

Elise

Is that a lot, 10 euros?

The fairy

3

Compared to 30 thousand euros, it's not a lot, but it will be every week, so with time ...

Elise

Precisely! Don't forget, you decided to regularly expand the money supply so that everyone receives a fair share of money!

The fairy



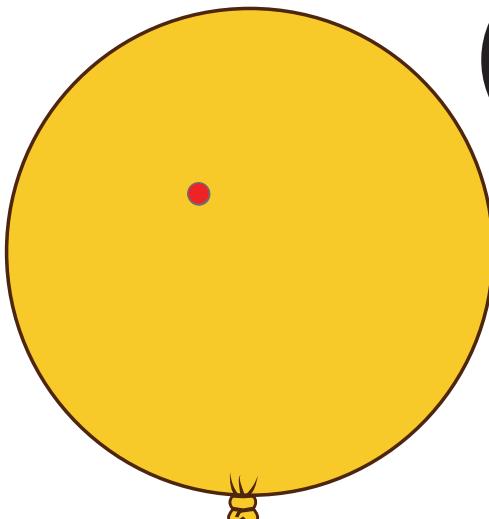
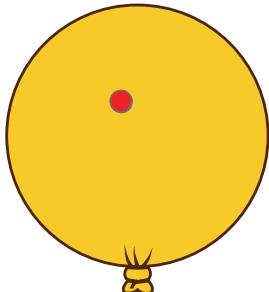
Yes, I see the problem: 10 euros, compared with the amount of euros which is only growing, it's smaller and smaller ... like a piece of confetti laid on a balloon, which seems tinier and tinier when the balloon is inflated.

Elise

Instead of 10 euros, let's use what is known as a relative value: 10 per cent, or 10 %, it means that for 100 euros which exist, we create 10 new euros.

The fairy

4



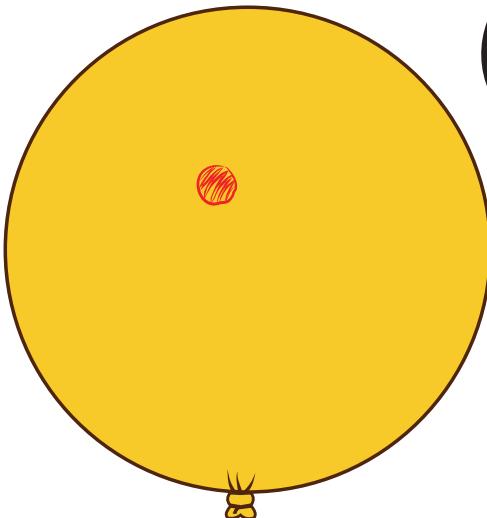
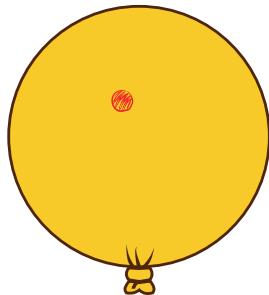
We count the number of euros that already exist, we create new euros, 10 for 100, and each of us receives an equal share of these new euros. And we do this every week.

Elise

This time, 10 %, compared to the money supply which is only growing, it's like a piece of confetti drawn on a balloon, seeming to grow as the balloon is inflated.

The fairy

5



Yes! And that's what it's fair to do!

Elise

This income to which everyone is entitled, it has a name, it's known as a DU. The DU word is actually an abbreviation of a french term: "Dividende Universel" – or "Universal Dividend" in English.

The fairy

6

Universal Dividend

6

"Yes! And that's what it's fair to do!"
Elie

This income to which everyone is entitled, it has a name, it's called a DU. The DU word is actually an abbreviation of a French term: "Dividende Universel" – or "Universal Dividend" in English.

1

"So let's increase regularly the number of euros – and each time, we share these new euros between all of us! It's something like if the 80 thousand euros were repaid gradually."

The fairy

"Yes, we should do this, in order to comply with not only a spatial symmetry, but also what is known as a temporal symmetry."

The fairy

2

"We could say that everyone receives 10 euros a week!" Like my pocket money, in fact!

The fairy

"Is that a lot, 10 euros?"

The fairy

3

"Compared to 80 thousand euros, it's not a lot, but it will be every week, so with time ..."

Elie

Precisely! Don't forget, you decided to regularly expand the money supply so that everyone receives a fair share of money!

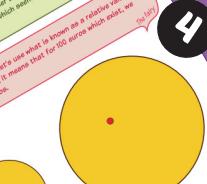
The fairy

5

"Now I see the problem: 10 euros compared with the amount of euros which is only growing, it's smaller and smaller ... like a piece of cake left out on a balloon, which becomes smaller and smaller when the balloon is inflated."

Elie

Instead of 10 euros, let's have what is known as a relative value: 10 per cent, or 10%: it means that for 100 euros which exist, we create 10 new euros.



"We count the number of euros that already exist; we create now euros: 10 for 100, and each of us receives an equal share of these new euros. And we do this every week."

The fairy

"This time, 10% compared to the money supply which is only growing, it's like a piece of confetti drawn on a balloon, seeming to grow as the balloon is inflated."

The fairy





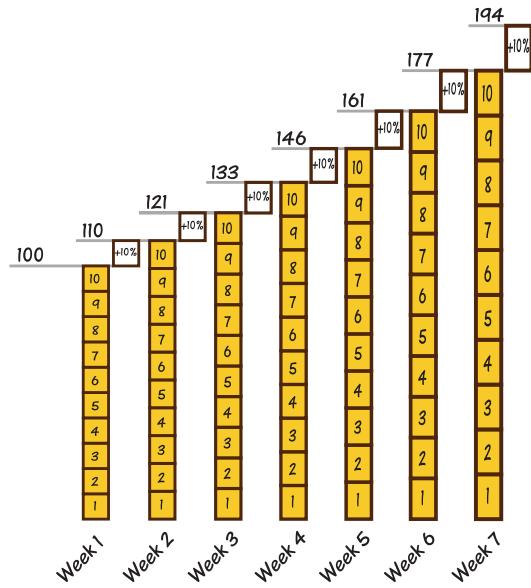
1

10 for 100, it's convenient, it corresponds to a division by 10, we just have to shift the decimal point! For 100 euros, 10 are created; one week later, for 110 euros, 11 are created; two weeks later, for 121 euros, 12.1 are created.

Elise

Look at this elastic band: if it is lengthened of 10 % every week, its length will have almost doubled the seventh week. This kind of rapid growth is said to be exponential.

The fairy



2

Imagine at school, if the scoring system changed every week, even though you're aware of it, that would be difficult to follow!

Elise

There's no reason to create money as often. If we do it only every beginning of year, we fully comply with the temporal symmetry.

The fairy

3

The first year, 10 % of new euros are created, that is 1 trillion euros. Everyone receives an equal share ... The division looks like the one done just now! That makes a little over 3 thousand euros as pocket money per person.

Elise

We say that 10 % of new money is co-created. The following year, 10 % of money will be co-created again.

The fairy

$$\begin{array}{r} 1\ 000\ 000 & | 330 \\ - \underline{990} & | \underline{\quad} \\ \hline 10\ 00 & | 3030 \\ - \underline{9\ 90} & | \hline 100 & \end{array}$$

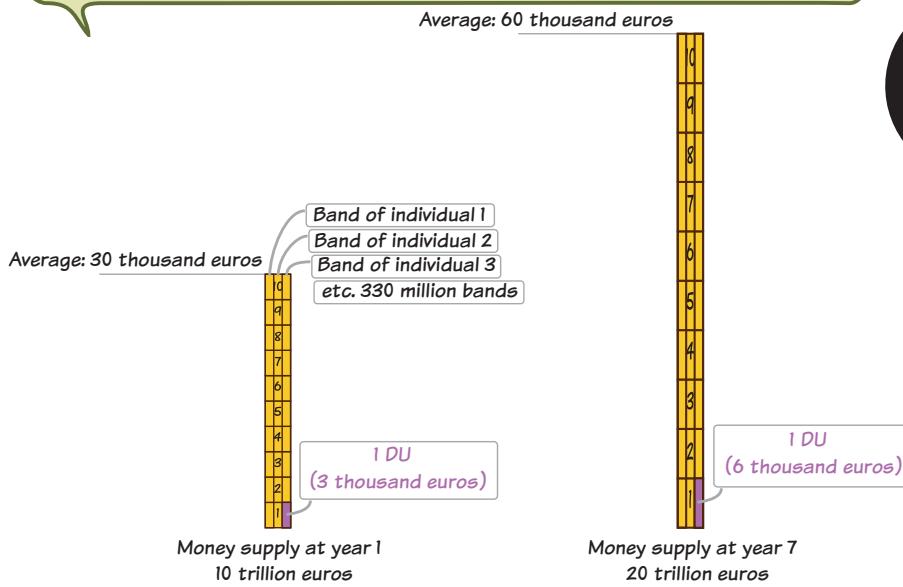


Let's resume our elastic band: let's say that its surface area represents the money supply. We divide it into fine bands of equal width, one for each person. Let's draw the bands for 3 people instead of 330 million, it's easier.

The fairy

Each fine band corresponds to the average, that is 30 thousand euros. And 10 % of a fine band corresponds to the DU, 3 thousand euros. 7 years later, the length of the band will have doubled. So the number of euros, but also the average and the DU double every 7 years!

Elise



4

That's right, everything doubles if we measure in euros ... But we can also express everything in number of DUs.

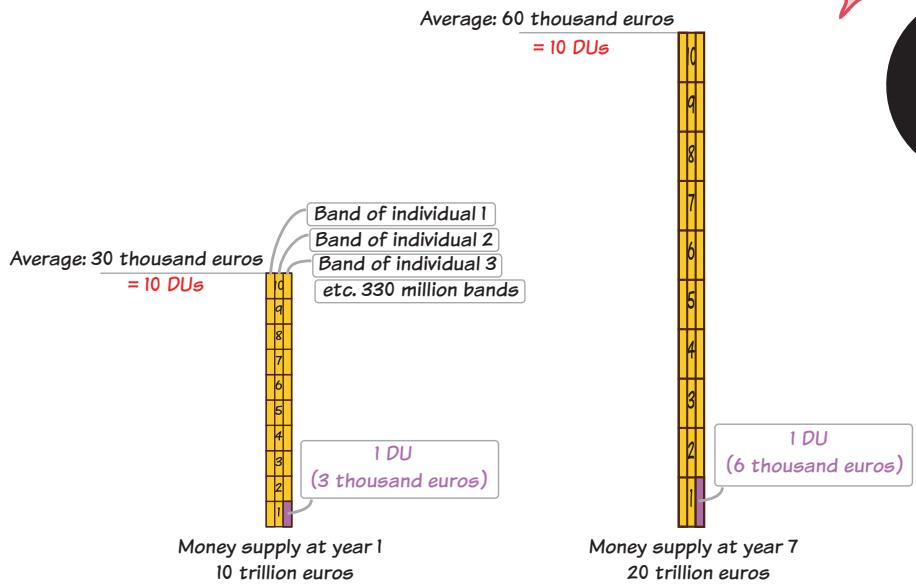
The fairy

Yes, a bit like my book is worth three pocket money, let's see what is the total amount of money in number of DU.

Elise

In the drawing, we see that the average is 10 purple rectangles, that is 10 DUs, now or seven years later.

The fairy



5

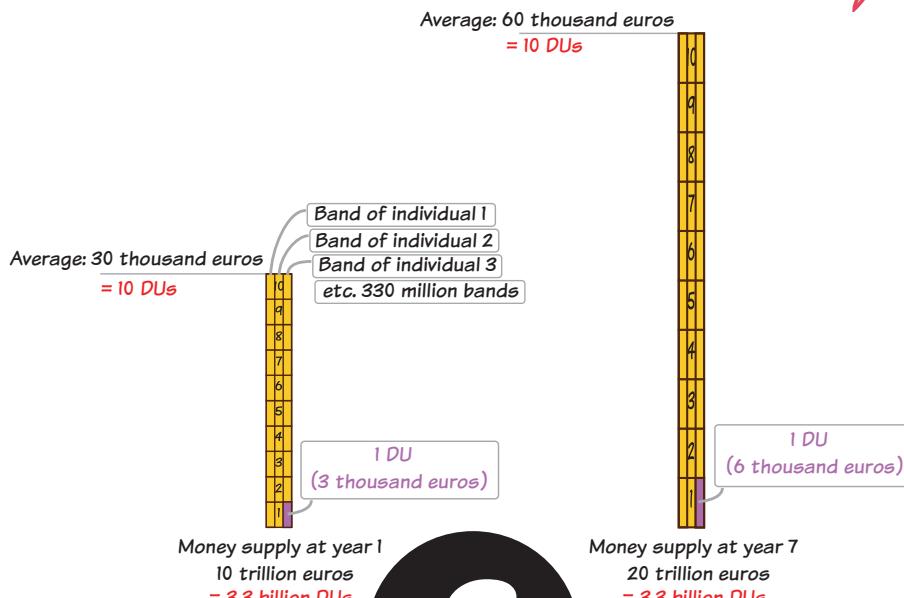


And to know the money supply, we just have to multiply the average by 330 million: that's 3.3 billion DUs. Now or 7 years later, we always find all the same.

Elise

Yes, at least if the number of people does not change! In this frame of reference, the money supply is said to be stable. Its growth is zero, it's no more exponential.

The fairy



6

Exponential growth

3

The first year, 10 % of new euros are created, that is 1 trillion euros. Everyone receives an equal share ... The division looks like the one done just now! That makes a little over 3 thousand euros as pocket money per person.

$$\begin{array}{r}
 1\,000\,000 \\
 - 990 \\
 \hline
 10\,00 \\
 - 9,90 \\
 \hline
 100
 \end{array}
 \left| \begin{array}{r}
 330 \\
 3030
 \end{array} \right.$$

2

2

Let's resume our slash-hand! Let's say that it has surface area representing the money supply. We can draw it into two hands of equal width, one for each person. Let's draw the bundle for the bank people metred at 350 million, so it's easier.

Average of 40 thousand euros

Bank of Scotland
Bank of England
Bank of Scotland
Bank of England

100
1000
10000
100000
1000000
10000000
100000000
1000000000

Money supply at year 7
is thousand euros

A page from a children's book about money. At the top, a speech bubble says: "That's right, everything doubles if we measure in euros ... But we can also express everything in numbers of Dukat coins." Below it, another speech bubble says: "Yeah, a bit like my book is worth three pocket money, let's see what's the total amount of money in numbers of Dukat coins?" In the middle, a ruler is shown with markings for 10, 20, and 50 million Dukats. A speech bubble next to it says: "In the following, we see that the average is 10 purple rectangles, so it is 10 20kg now or seven years later." At the bottom, a speech bubble says: "The fact is ...". A large black circle at the bottom right contains the number 5.

And to know the money supply, we just have to multiply the average by \$30 billion: that's 3.3 billion DUs. Now if 7 years later, we always find all the same.

Yes, at least if the number of people does not change! In this frame of reference, the money supply is said to be stable. Its growth is zero, it's no exponential.

(the left)

Average: 50 thousand euros
= 10 Boxes

Average: 50 thousand euros
etc. 550 million bonds

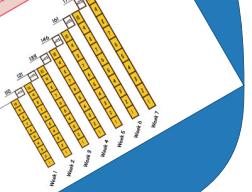
100 thousand euros

Money supply at year 1 Money supply at year 7

10 trillion euros
= 8.8 billion DUs

20 trillion euros
= 17.6 billion DUs

Look at this diagram! If U_n is lengthened of $\frac{1}{10}$ every week, lengths will grow to add to be exponential.





1

By counting in DU, we have used a new frame of reference,
is that right?

Elise

Yes. We could also use your book as frame of reference.
How much would cost the DU in number of books?

The fairy

The DU is worth 3 thousand euros, and the book is worth 30 euros, it's 100 times less. It's as if the DU was worth 100 books!

Elise

You think it would make sense for everyone to use a book as a reference?

The fairy



2

I don't think so, my friends don't enjoy reading ...

Elise

And there, you consider the spatial dimension, but there's also the temporal dimension: books have not always existed. Sometimes people want to impose their values, for example gold or silver, as frame of reference, it's unjustifiable and intolerable!

The fairy

Well, then ... there's only one frame of reference that makes sense for everyone, it's man itself!

Elise

3

That's exactly it! For example, the average store of money is based on humans. The DU is also, because the one is 10 % of the other. They have meaning for everyone and at all times.

The fairy

Yes, we have to use the DU as frame of reference! The book costs 100 times less, it's as if it was worth 1 cent in DU!

Elise

On the back of the book, instead of writing "Price: 30 euros", we can write "Price: 0.01 DU", and it will make sense for everyone, regardless of its position in space and in time.

The fairy

Price : 0.01 DU



4 315730 031573

4

But we know that 7 years later, the DU will have doubled ... if the book is still worth 0.01 DU ... then it will be worth 60 euros!

Elise

Yes, in this frame of reference in euro, we say there's price inflation. Do you find this shocking?

The fairy

I'm not sure ... The book has increased from 30 to 60 euros, but it's because at the same time, each received in equal parts plenty of pocket money ... Thus it compensates?

Elise

It certainly compensates, since we know that the money supply remained constant when we count in number of DUs!
Why are you hesitating?

The fairy

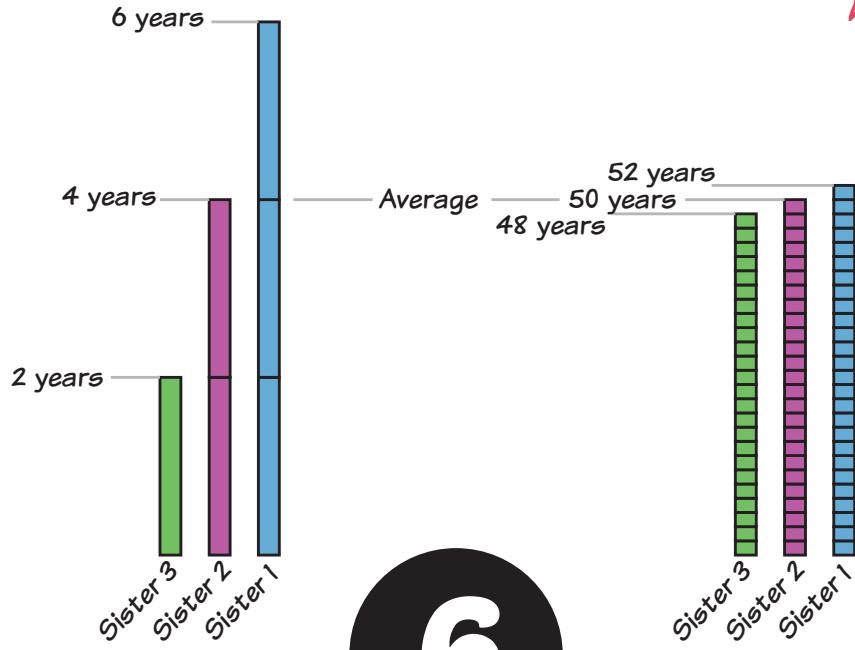


It's weird ... It reminds me of the story of the three sisters:
there're two years between each one, and when they were
children, the difference in age seemed huge ...

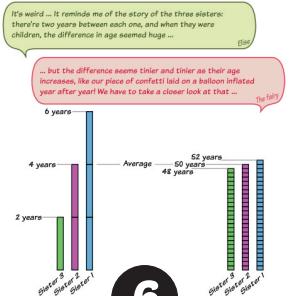
Elise

... but the difference seems tinier and tinier as their age
increases, like our piece of confetti laid on a balloon inflated
year after year! We have to take a closer look at that ...

The fairy



6



6

I'm not sure ... The book has increased from 80 to 80 euros, but it's a picture at the same time, each received equal parts, plenty of pocket money ... Then it compensates?

Yes. We could also use your book as frame of reference.

By counting in DU, we have used a new frame of reference.

Is that right?

Yes. We could also use the DU in number of books!

How much would cost the DU in number of books?

The DU is worth 80 thousand euros, it's as if the DU was worth 100 books!

You think it would make sense for everyone to use a book as a reference?

1

If certain compensation, since we know that the money supply remained constant, when we count in number of DU's? Why are you hesitating?

But we know that 7 years later, the DU will have doubled ... if this book is still worth 0.01 DU ... then it will be worth twice its price

Yeah, in this frame of reference in euros we say there's price inflation. Do you find this shocking?

4

The DU as reference

3

I don't think so, my friends don't enjoy reading ...

And there, you consider the spatial dimension ... books are not always equal.

Also the temporal dimension: books are not always equal.

Sometimes people want to impose their vision, for example gold or silver as frame of reference, it's unjustifiable and ridiculous.

Well then ... there's only one frame of reference that makes sense for everyone, it's man itself!

2

That's exactly it! For example, the average store of money is based on humans. The DU is also, because the one is 10 % of the other. They have meaning for everyone and at all times.

Yes, we have to use the DU as frame of reference! The book costs 100 times less, it's as if it was worth 1 cent in DU!

On the back of the book, instead of writing "Price: 80 euros", we can write "Price: 0.01 DU", and it will make sense for everyone, regardless of its position in space and in time.

Price: 0,01 DU

4 315730 031573

5



Let's see three cases. First: the person who has the average of 30 thousand euros, that is 10 DUs, stays at this average of 10 DUs, that is 33 miles euros after emission of the new money.

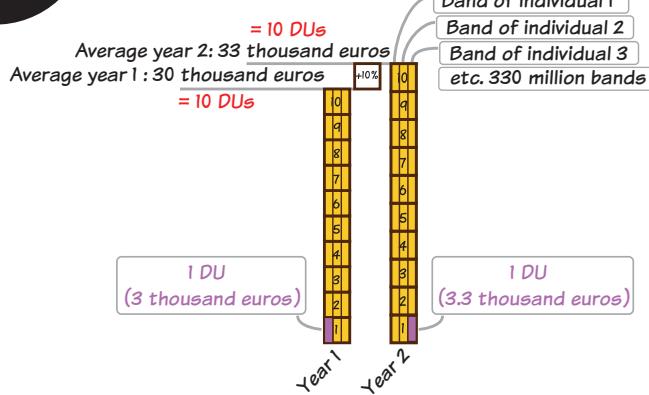
The fairy

We saw it with the elastic band:
its length increases so that the average of 10 DUs of year 2
corresponds to $10 + 1$ DUs of year 1.

Elise

It also reminds of the story of the three sisters: at 4 years old,
the second sister is at the average age, and at 50, she will still
be at the average age.

The fairy



2

Second, the one who has less than the average store: after the creation of 10 % of new money, it stays below, but in a way, comes closer!

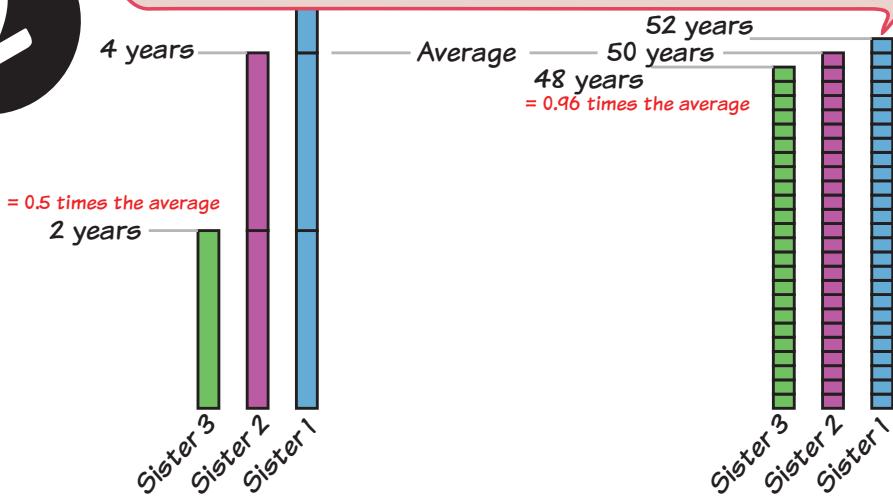
The fairy

It's clear with the three sisters: the third seems a little closer of the average age year after year.

Elise

The two missing years to be at the average age seem tinier and tinier, like the piece of confetti on the balloon.

The fairy



3

With the elastic, we see that someone who has no euro at the beginning has 3 thousand at year 2, but it always misses 30 thousand euros to reach the average. Except that the number of euros is increasing and ...

Elise

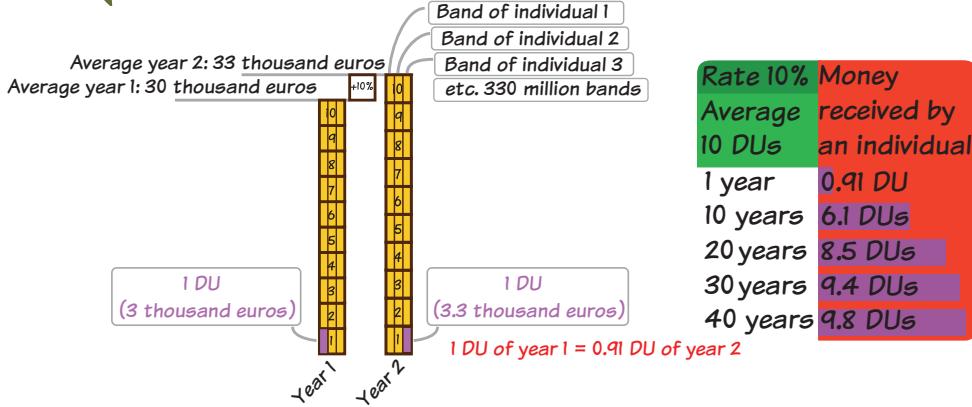
... And these 30 thousand euros will seem tinier and tinier!

Finally, if we count in DU, this individual will have received 0.91 DU after the 1st year; 8.5 at the 20th; and 9.8 at the 40th ...

The fairy

It doesn't reach the average of 10 DUs, but it's very close!

Elise

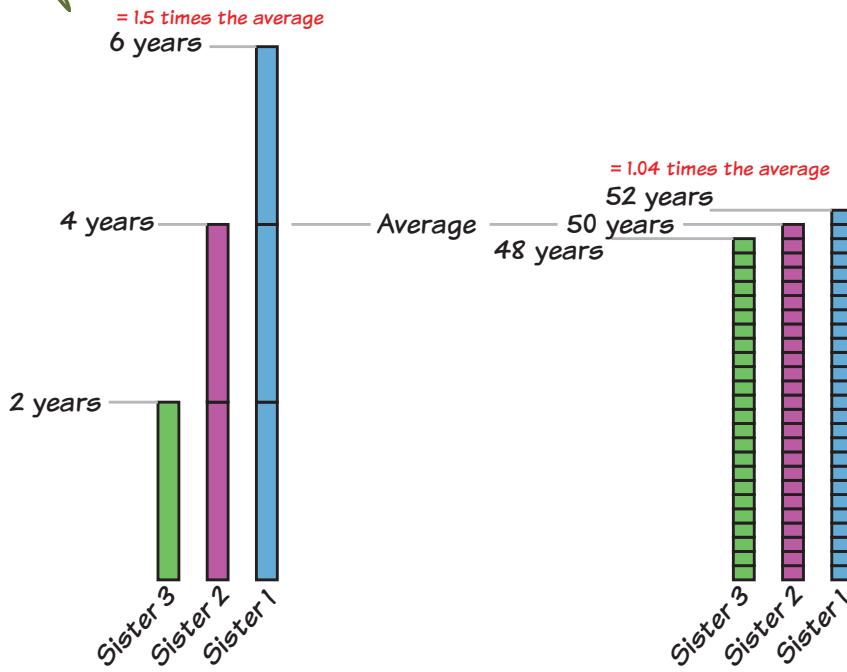


The fairy

Third: the one who had more than the average store ...

In a way, it's the same: it stays above but comes closer.
This time, it's just like with the third sister.

Elise



4

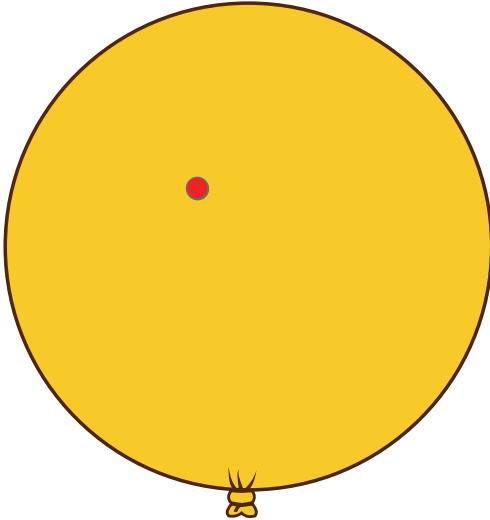
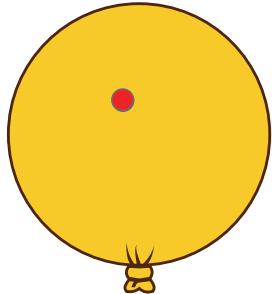
Note the case of an individual who would have all the money supply in its possession, and the others nothing ...

The fairy

Yes, after the creation of 10 % of new euros, it will only have 90 % of the money! And the more years will go by, the more its store of euros will seem small compared to the whole, as the piece of confetti on the balloon.

Elise

5



Small, but how much?

If we do the calculation, we find that its store will represent only 39 % of the money supply at the 10th year; 15 % at the 20th; 6 % at the 30th; and 2.5 % at the 40th ...

The fairy

Robin Hood gonna love this! Thanks to the DU, if my store is above the average, it seems to decrease, while if it is below, it seems to increase!

Elise

Yes, this time, we can speak of a virtuous circle.

The fairy

If I have little influence,
the DU increases my influence.

If I have a lot of influence,
the DU reduces my influence.

Rate 10% Average 10 DUs	Space occupied by the store of the one having all the euros
1 year	90 %
10 years	38.7 %
20 years	15. %
30 years	6.1 %
40 years	2.5 %

6





With this permanent increase, a store of euros which seems big one day, is not that much some years later. It looks like a trick to give it a limited life.

Elise

Yes, limited and well fixed! Humans dream about a money withstanding the test of time, it makes them feel secure. But it's madness! Now, we want a money in the image of man, both living at the same rhythm. And it's the rate of the DU which sets this rhythm.

The fairy

Therefore, 10 % is maybe not a good rate!
How are we going to know it?

Elise



2

We have calculated the average store of money by individual, but this time, we need their average life expectancy: it's about 80 years.

The fairy

So to calculate a good rate, we must involve this 80 somewhere ... it doesn't get us far ...

Elise

We will divide the 330 million people into 2: those who are under the age of 40, let's call them the incoming people ...

The fairy

... and the outgoing people, those who are over 40!
You are still talking about a symmetry!

Elise



3

You guess right. After forty years, we have already calculated that incoming people almost received their 10 DUs. This side of the symmetry is satisfactory.

The fairy

Yes, let's now look at outgoing people: after forty years, there's not many of them left ...

Elise

And the money which existed when they were a part of incoming people, what's happened to it?

The fairy

In fact, we have already calculated it: after 40 years, it also has almost disappeared, it represents only 2.5 %.

Elise

Rate 10% Average 10 DUs	Money issued by an incoming	Space occupied by the money supply of outgoing people
10 years	6.1 DUs	38.7 %
20 years	8.5 DUs	15.1 %
30 years	9.4 DUs	6.1 %
40 years	9.8 DUs	2.5 %



2.5 % is a reasonable value, because the 40th year, we can consider that the outgoing people are few, but they still account for about 2.5 %.

The fairy

Why the outgoing people would be only 2.5 %?

Elise

4



11

5

2.5 for 100, it's the same as 1 for 40. Moreover, we can consider that every year, the same proportion of outgoing people disappears.

The fairy

And the same proportion for 40 years, that means 1 in 40 people who disappear each year.

Elise

That's right. So we consider that the 40th year, it only remains the last fortieth of the outgoing people, that is 2.5 %.

The fairy



We could recalculate with other values for the rate, see what happens with 1 %, 5 % or 20 %?

Elise

Look, the results are in these tables: we can see that 10 % is the value that best respect the symmetry which has been chosen.

The fairy

All the better, 10, that's so convenient!

Elise

Rate 1%	Money issued by	Space occupied by the money supply	Rate 5%	Money issued by	Space occupied by the money supply
Average 100 DUs	an incoming of outgoing people	of outgoing people	Average 20 DUs	an incoming of outgoing people	of outgoing people
10 years	9.5 DUs	90.6 %	10 years	7.7 DUs	61.5 %
20 years	18 DUs	82 %	20 years	12.5 DUs	37.9 %
30 years	25.8 DUs	74.3 %	30 years	15.4 DUs	23.4 %
40 years	32.8 DUs	67.3 %	40 years	17.2 DUs	14 %

Rate 10%	Money issued by	Space occupied by the money supply	Rate 20%	Money issued by	Space occupied by the money supply
Average 10 DUs	an incoming of outgoing people	of outgoing people	Average 5 DUs	an incoming of outgoing people	of outgoing people
10 years	6.1 DUs	38.7 %	10 years	4.19 DUs	16.4 %
20 years	8.5 DUs	15.1 %	20 years	4.87 DUs	2.9 %
30 years	9.4 DUs	6.1 %	30 years	4.98 DUs	0.73 %
40 years	9.8 DUs	2.5 %	40 years	4.997 DUs	0.39 %

6

Rate of the Universal Dividend

3

You guess right. After forty years, we have already calculated that incoming people almost received their 10 DUs. This side of the symmetry is satisfactory.

Yes, let's now look at outgoing people: after forty years, there's not many left ...

And the money which existed when they were a part of incoming people, what's happened to it?

In fact, we have already calculated it: after forty years, it also has almost disappeared, it represents only 2.5 %.

Rate 10 % Money issued by an incoming population	Space occupied by the money supply of outgoing people
10 years 10 DUs	37.5 %
20 years 8.5 DUs	15.7 %
30 years 7.5 DUs	10.5 %
40 years 6.5 DUs	7.8 %

2

We have calculated the average storage of money by individual, but this time we need their average life expectancy: it's about 80 years.
So to calculate a "good" rate, we must involve this 80 somewhere ... it doesn't get us far ...

We will divide the 230 million people into 2: those who are under the age of 40, let's call them pre-income people ...

... and the outgoing people, those who are over 40!

4

2.5 % is a reasonable value, because the outgoing people are few, but they still account for about 2.5 % of the population.

Why the outgoing people would be only 2.5 %?

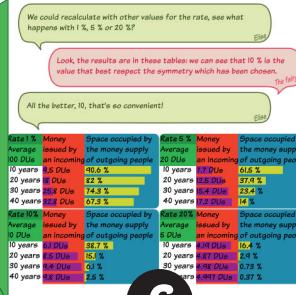
5

2.5 % for 40, it's the same as for 40. Moreover, we can consider that every year, the same proportion of outgoing people disappears.

And the same proportion for 40 years, that means 1 in 40 people who disappear each year.

That's right. So we consider that the 40th year, it only remains the last fourth of the outgoing people, that is 2.5 %.

6



1

With this permanent increase, a store of scarce value seems big one day, is not true that much some years later, it looks like a trick to give it a limited life.

You limited and well fixed human resources about a month, but it makes no sense, we want a month is the image of man, but living at the same rhythm. And it's the rate of the DU which sets this rhythm.

Therefore 10 % is maybe not a good rate!

How are we going to know?





1

In fact, the incoming people who receive their DUs, it looks like an inheritance left to them by the outgoing people.

Elise

It's true. Your ancestors have passed on to you many things, such as the numerals and the letters we use today. You haven't had to work to gain access to them. All this has a great value and belongs no more to the ones than to the others. In a way, the DU represents this universal heritage.

The fairy





2

Do you know a book about all this?

Elise

I know one, entitled "The Relative Theory of Money" by
Stéphane Laborde, published under a free license.

The fairy

I know the free licenses, it's when we can download, reuse,
reprint, modify, distribute, copy ... the texts or the drawings!
But, what does that mean "Relative Theory of Money"?

Elise



3

We have seen some principles of symmetry. By applying them to money, we followed what we call the Relative Theory of Money. It also says that a currency is "non free" when it does not respect these principles, and when its functioning is not accessible to all.

The fairy

These "non free" currencies are really lousy: they are poor tools, they measure badly and distort everything in a very unfair way. But we have seen what is needed for these currencies to be much better.

Elise



I read that there're cities with their own currency.

Elise

That's right! Some understood that they have everything to live with abundance, except they are in a vicious circle that slowly deprives their region of money ... Faced with this money drying up, they had the idea of establishing their own currency.

The fairy

4



12

So, there're already free currencies!

Elise

Not really. Some local currencies are called "perishable", meaning that the currency notes have a date of issue and their value decreases month after month. But none contains this idea of DU. However, this may soon change: free currencies are in preparation!

The fairy

5





Yes, but you know, the problem is the same as for free licenses: many people don't know all this ...

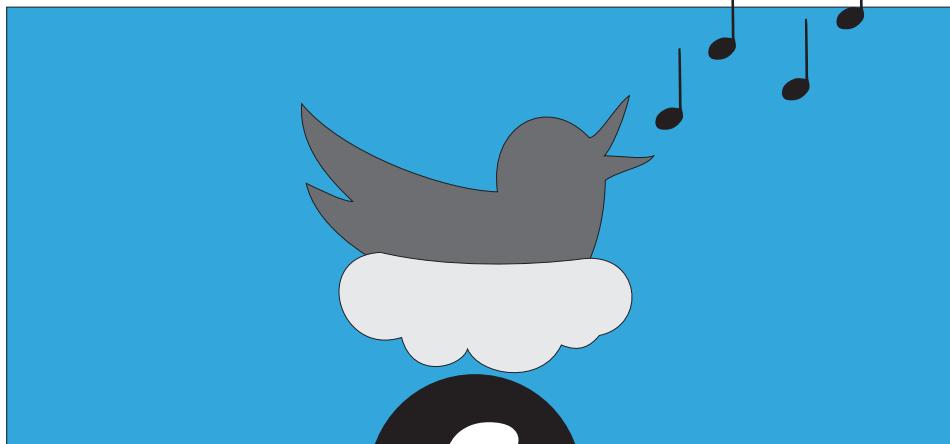
Elise

Don't lose hope! Because the success of free licenses is undeniable and has perfectly illustrated a famous phrase "First they ignore you, then they laugh at you, then they fight you, then you win."

The fairy

So free currencies are gonna win!
And we will sing "One man, one DU!"

Elise



6

Free currency



3

We have seen some principles of symmetry. By applying them to money, we followed what we call the Relative Theory of Money. It also says that a currency is "non Fair" when it does not respect these principles, and when its functioning is not accessible to all.

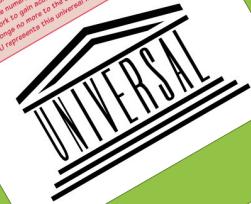
These "non Fair" currencies are really lousy: they are poor tools, they measure badly and distort everything in a very unfair way. But we have seen what is needed for these currencies to be much better.

2

Do you know a book about all this?
I know one, entitled "The Relative Theory of Money" by Stephane Lakordaire, published under a free license.

I know the Free license, it's when we can download, reuse, reprint, modify, distribute, copy ... the text or the drawings. But what does that mean "relative theory of money"?

1



5



So, there're already free currencies!
Not really, some local currencies are called "portable", meaning that the currency notes have a date of issue and their value decreases month after month. But none contains the idea of "DU" however, they may soon change free currencies are in preparation!



Yes, but you know, the problem is the same as for free licenses: many people don't know all this ...

Don't care! Because the success of free licenses is undeniably growing, perfectly illustrated a famous phrase "First they ignore you, then they laugh at you, then they fight you, then you win!"

So free currencies are gonna win!
And we will sing "One man, one DU!"

In fact, the incoming people who receive their DUs, it looks like an inheritance left to them by the outgoing people.
It's true! Your ancestors have passed on to you many things, such as the numerals and the letters we use today. You have, had an work to pass those on to them. All this have a great value and belongs no more to the ones than to the others in a way. The DU represents this universal heritage.



