Inheritance and Lookup

4: doesNotUnderstand: aMessage

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Goal

- A hook message is sent when the lookup fails
- Classes can customize the reaction to this failure
Message Sending

Sending a message is a two-step process:

1. **look up** the **method** matching the message
2. execute this method on the **receiver**
When No Method is Found

- if no method is found in the hierarchy, `doesNotUnderstand:` is sent to the receiver
- the initial message is passed as parameter
When No Method is Found

Object

doesNotUnderstand:

Node

accept:
name
send:

node1

coucou: #stef
Step by Step...

coucou: #stef

1. coucou: **looked up in** Node
2. **not defined in** Node -> **continues in** Object
3. **not defined in** Object -> **send**
doesNotUnderstand: to node1
4. doesNotUnderstand: **looked up in** Node
5. **not defined in** Node -> **continues in** Object
6. doesNotUnderstand: **is found and executed**
doesNotUnderstand: is a Message

- doesNotUnderstand: is a message
- any class can implement the corresponding method
- used for automatic delegation, proxy, distribution
doesNotUnderstand: and the Debugger

When no class redefines `doesNotUnderstand:`:

- `doesNotUnderstand: in Object is executed`
  - this method raises a `MessageNotUnderstood` exception
  - when not handled, this exception opens a debugger
Catching `MessageNotUnderstood` Error

`MessageNotUnderstood` is just an exception, code can handle it:

```smalltalk
Node >> sayHello
    self coucou: #stef

Node >> welcome
    [ self sayHello ]
on: MessageNotUnderstood
do: [ Transcript show: 'Something went wrong with a message' ]
```
What You Should Know

- The lookup sends `doesNotUnderstand:` when it cannot find a method
- Each class can implement this method
- The default implementation of `doesNotUnderstand:` raises an exception that can be handled
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