On course materials

a workshop for L&S TA training

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About me

This talk: “why” and “how”

This talk: “why,” “what,” and “how”

Why make course materials?

Forecast

- When and how to use slides
- Why and how to make handouts
- How to make your life easier
- Teaching the Facebook generation

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- When and how to use slides
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What makes for good slides?

What makes for bad slides?

- One characteristic of bad slides is that they often have too much text or serve as an outline for a lazy speaker who has failed to adequately prepare, meaning that the audience will be reading instead of listening
    - Also feature many sentence fragments
- Because font size is too small, readability suffers, key points not reinforced, audience asleep
- Fortunately, you can print this out and read it later, gathering much of benefit of attending talk
    - Unfortunately, slides like this make you wonder why you are bothering to attend the presentation in the first place

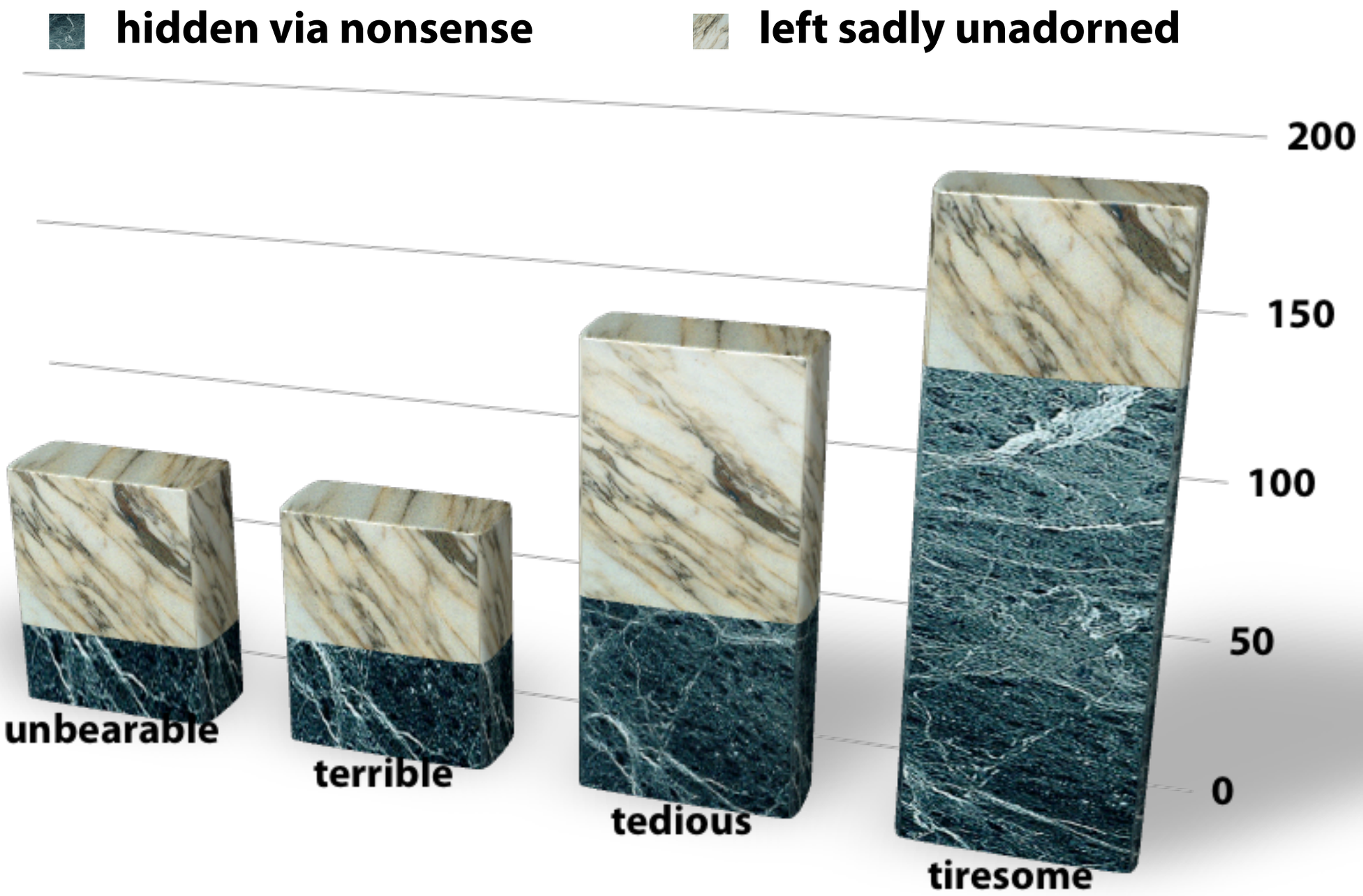
Other kinds of bad slides?

- Sure!
  - Many ways
    - Too terse perhaps as bad as too verbose
- Kind of too bad that “verbose” is on a line by itself up there; is it lonely?

Other kinds of bad slides? (ctd.)

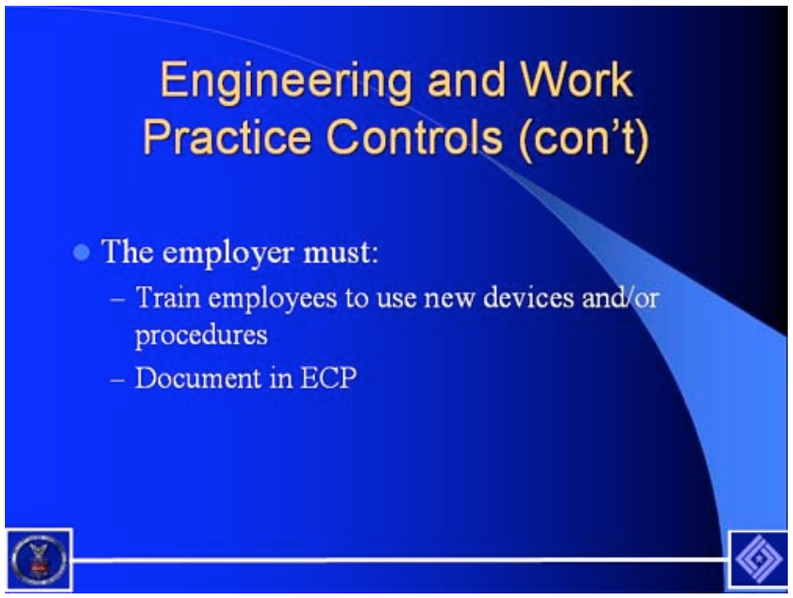
- Does this help my presentation?
  - Not really.
- Inconsistent punctuation is sort of fun
- What information do these slides convey?
  - Why aren't these bullets in my notes?

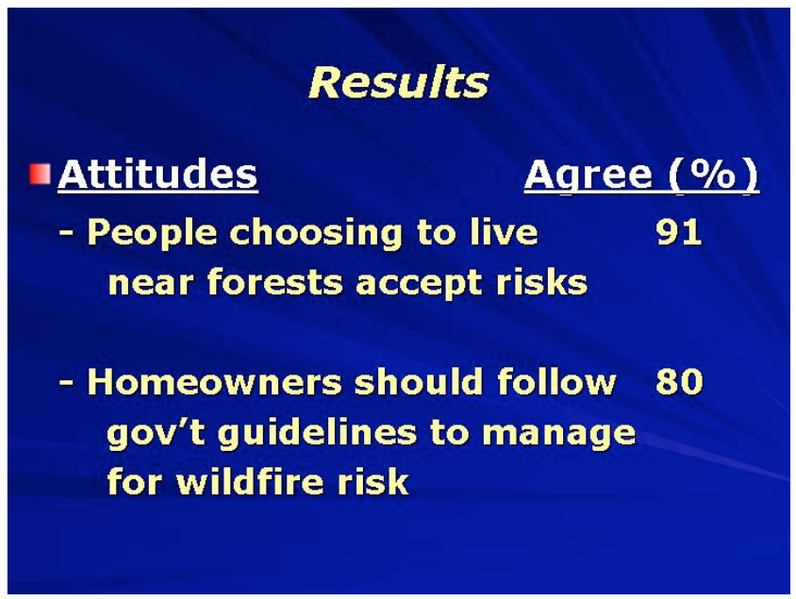
Trying to hide bad slides (2007)

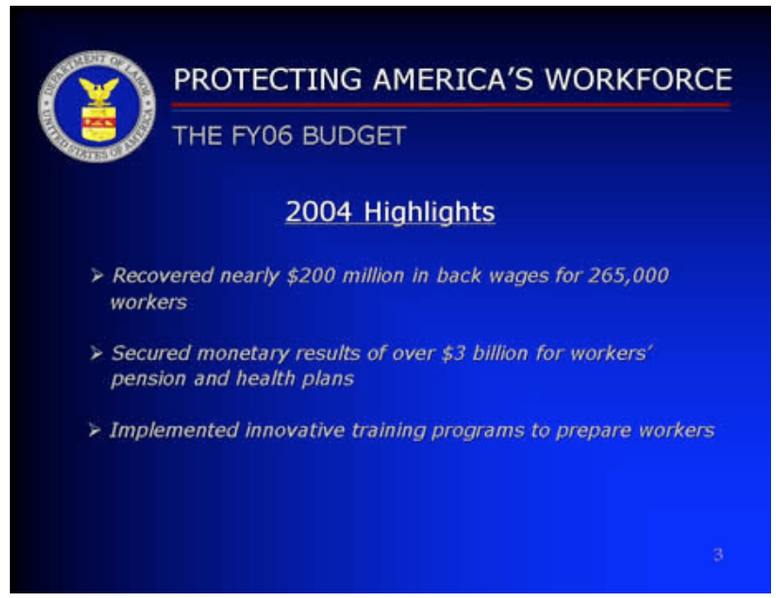


Yikes!

Bad slides are ubiquitous







("credits": OSHA, USDA, DOL)

A better model

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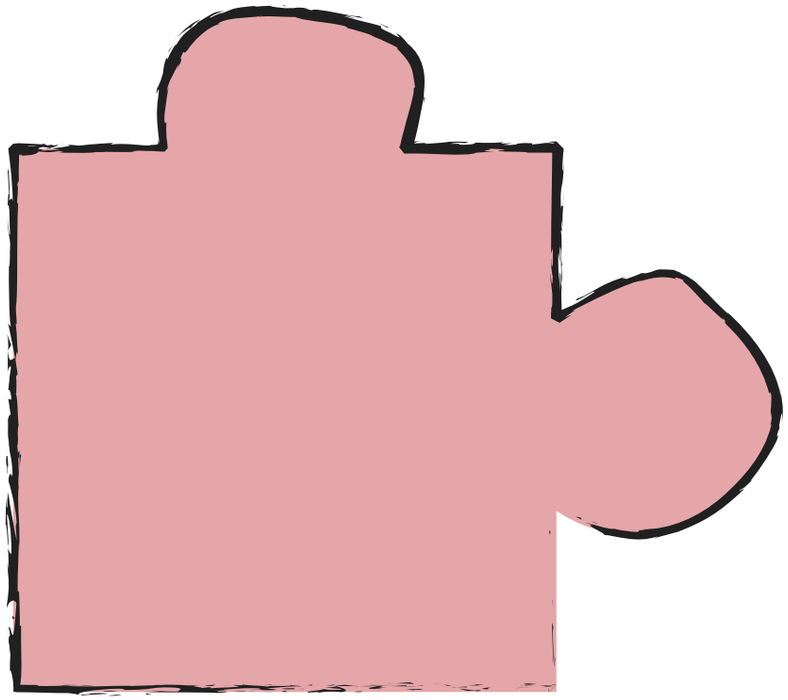

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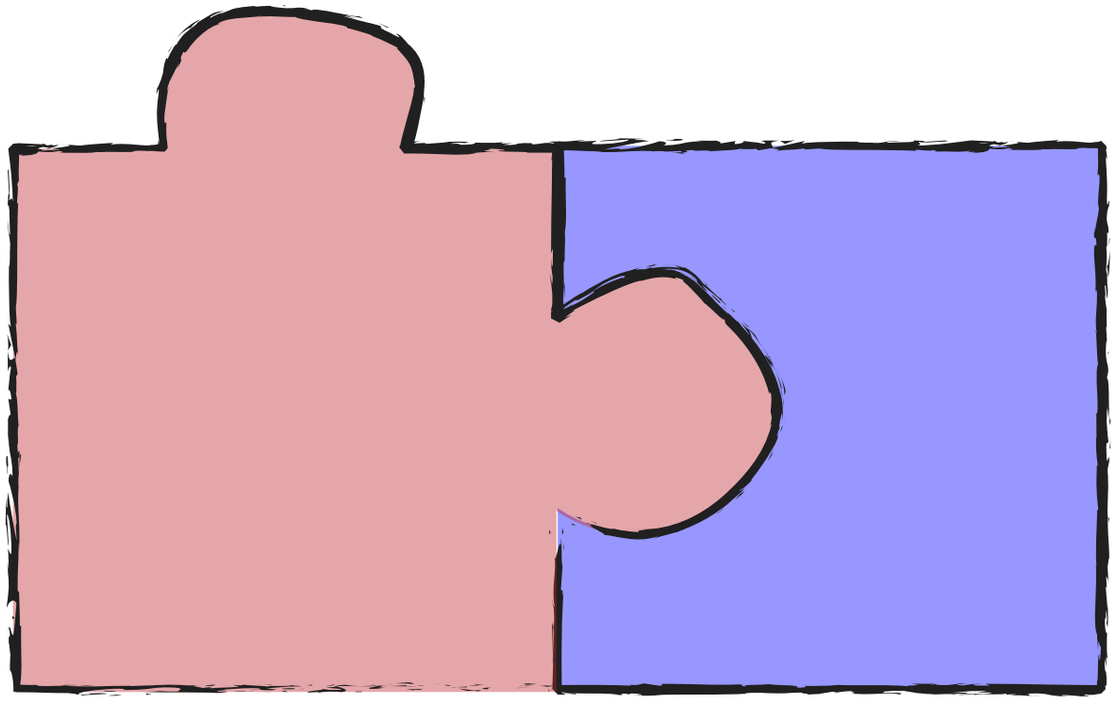

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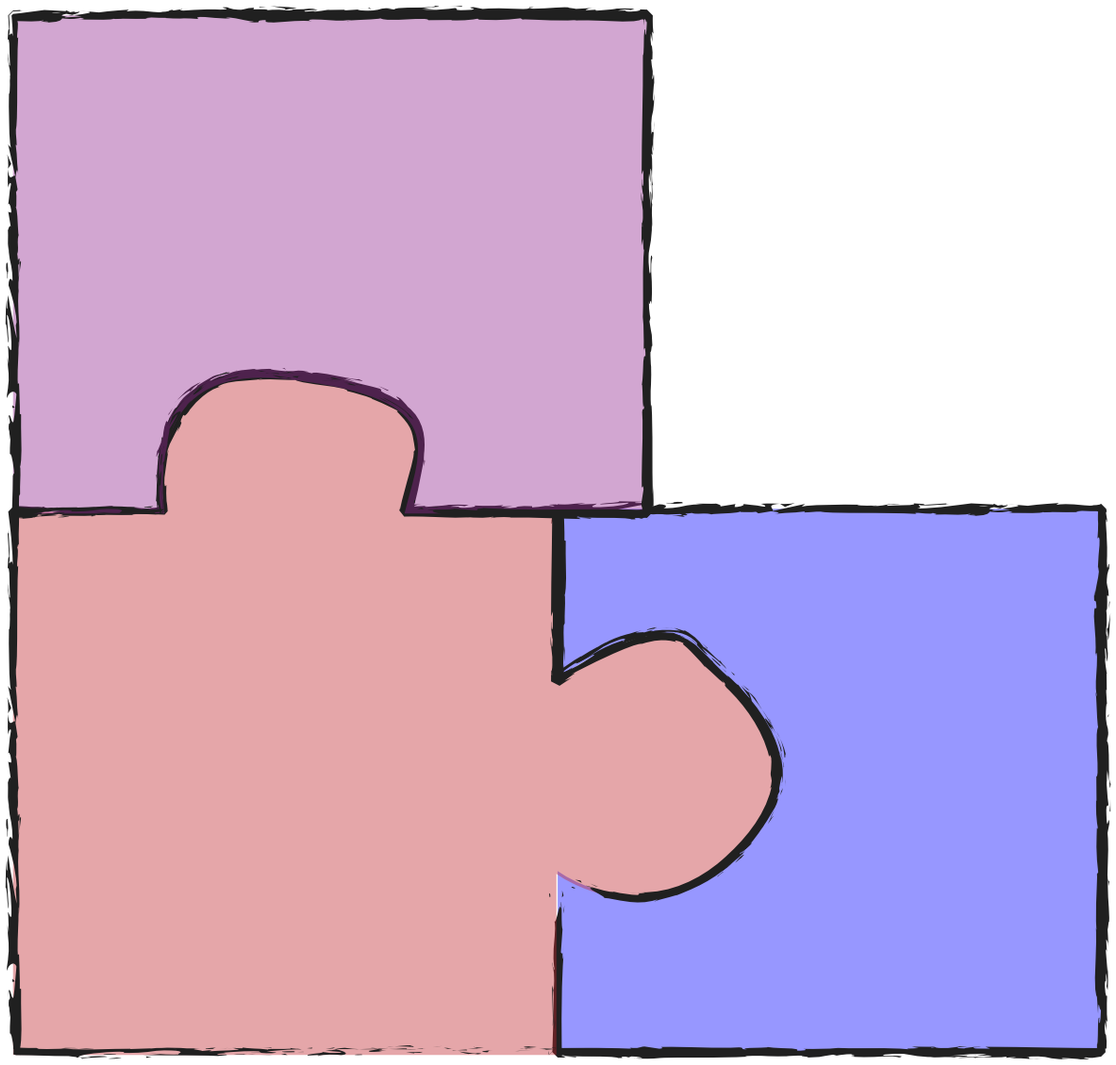

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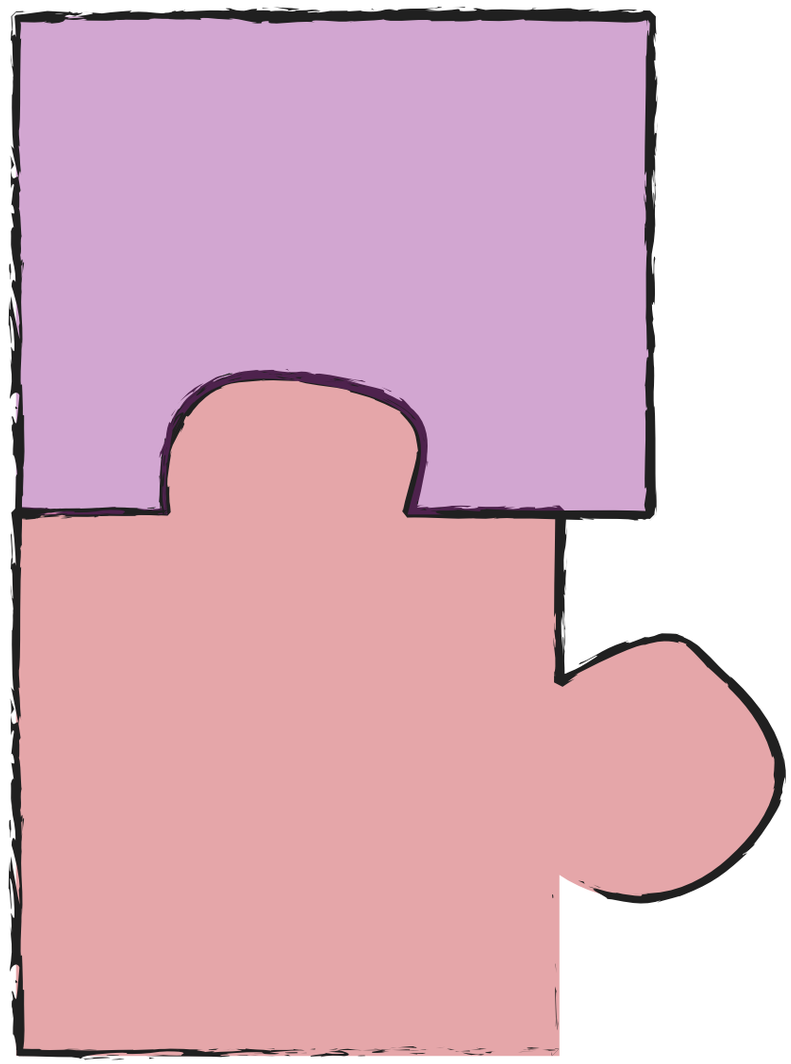

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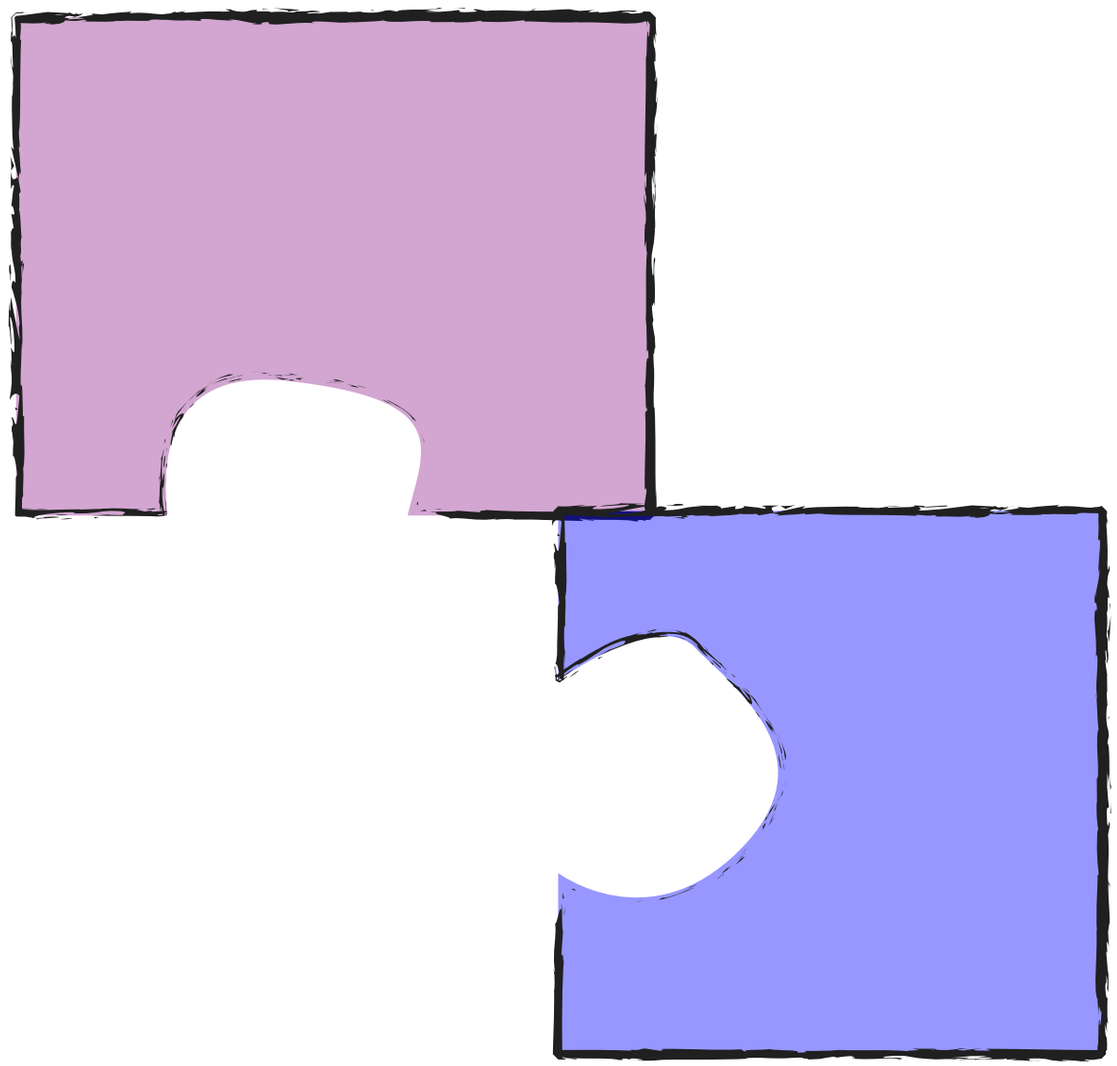

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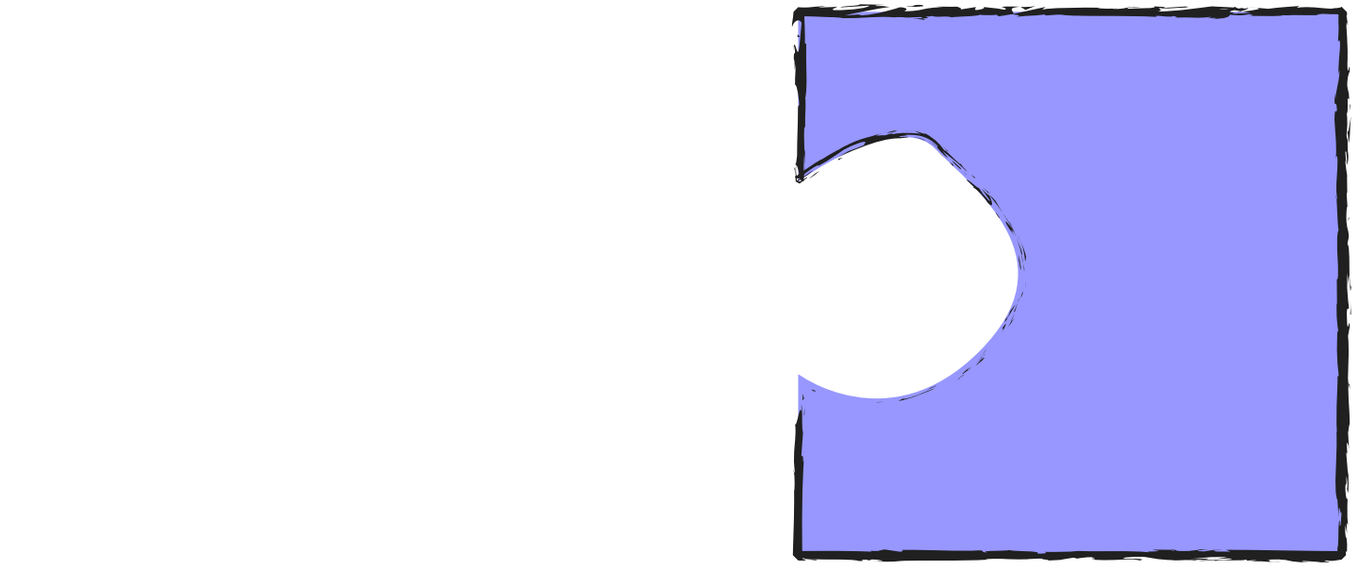
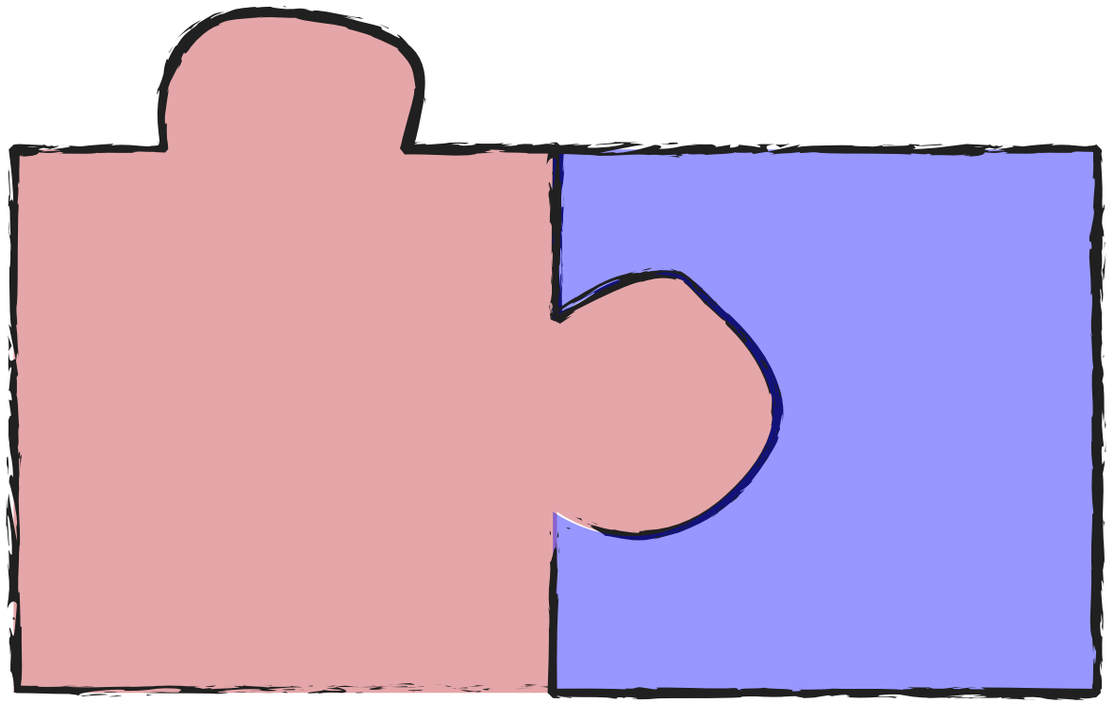
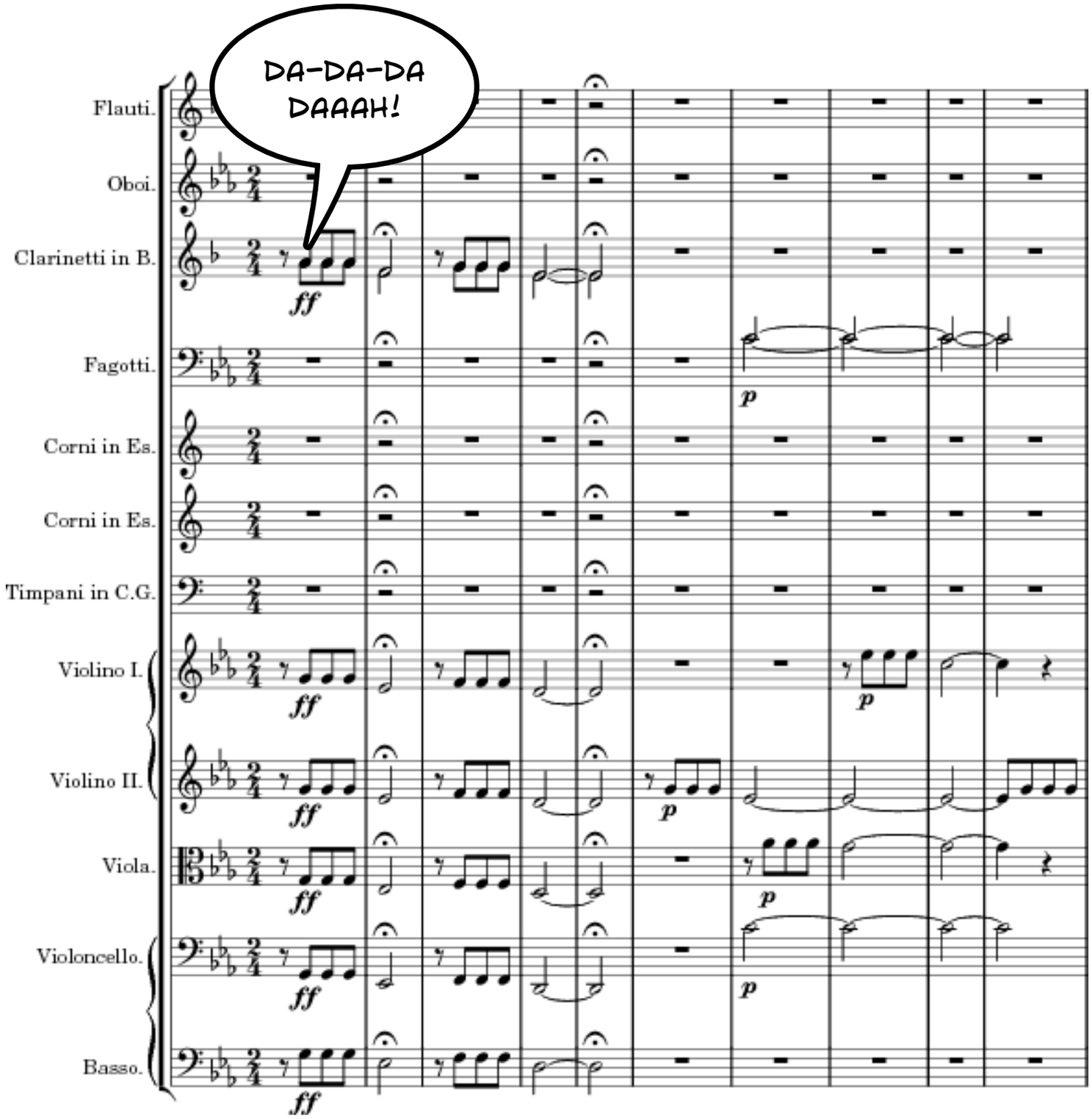


What should slides do?



Case study: figures


Allegro con brio.
Flauti.
Oboi.
Clarinetti in B.
Fagotti.
Corni in Es.
Corni in Es.
Timpani in C.G.
Violino I.
Violino II.
Viola.
Violoncello.
Basso.
ff
p


DA-DA-DA
DAAAH!
Flauti.
Oboi.
Clarinetti in B.
Fagotti.
Corni in Es.
Corni in Es.
Timpani in C.G.
Violino I.
Violino II.
Viola.
Violoncello.
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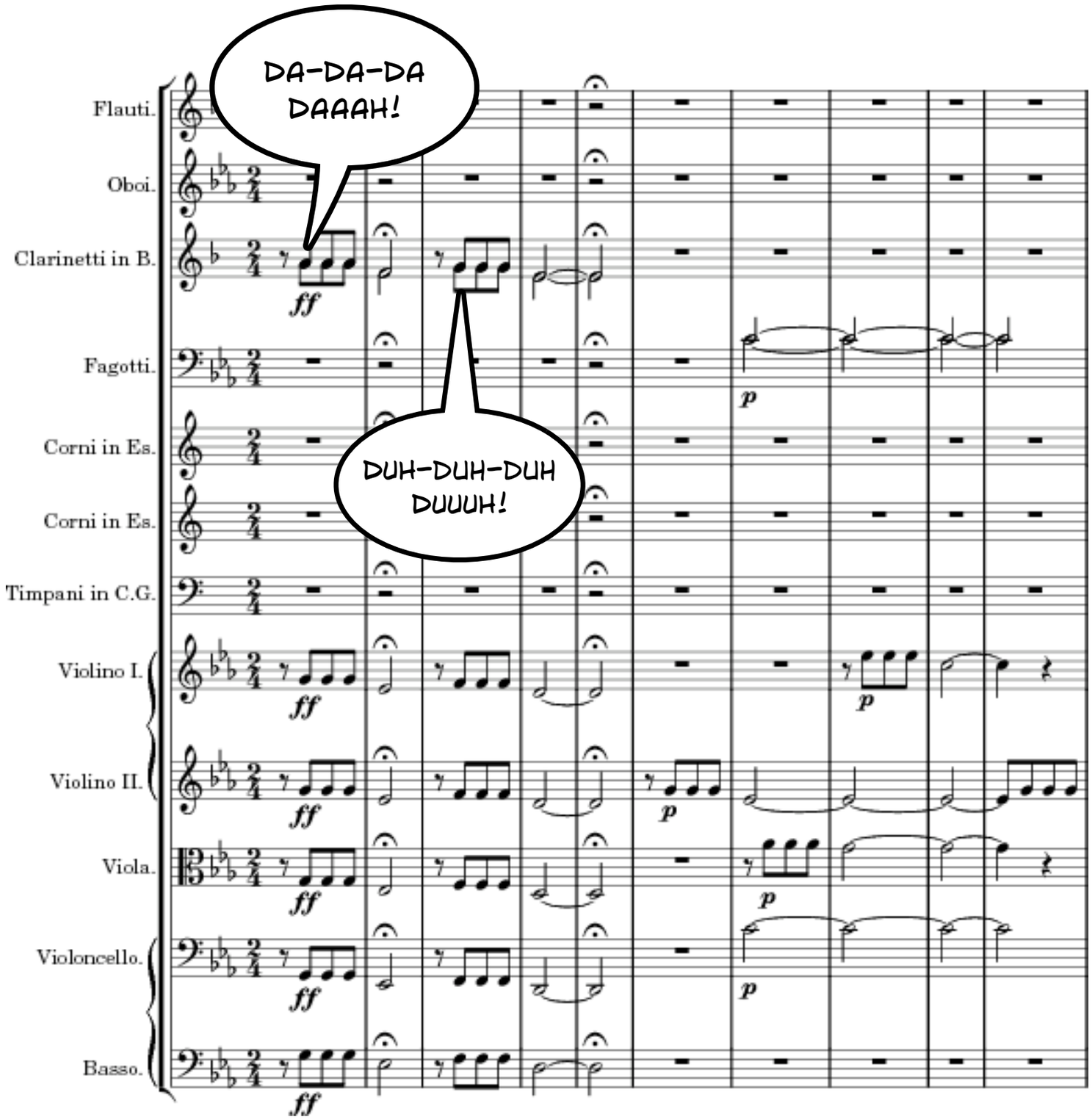
ff
p


DA-DA-DA
DAAAH!
DUH-DUH-DUH
DUUUH!
Flauti.
Oboi.
Clarinetti in B.
Fagotti.
Corni in Es.
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Viola.
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ff
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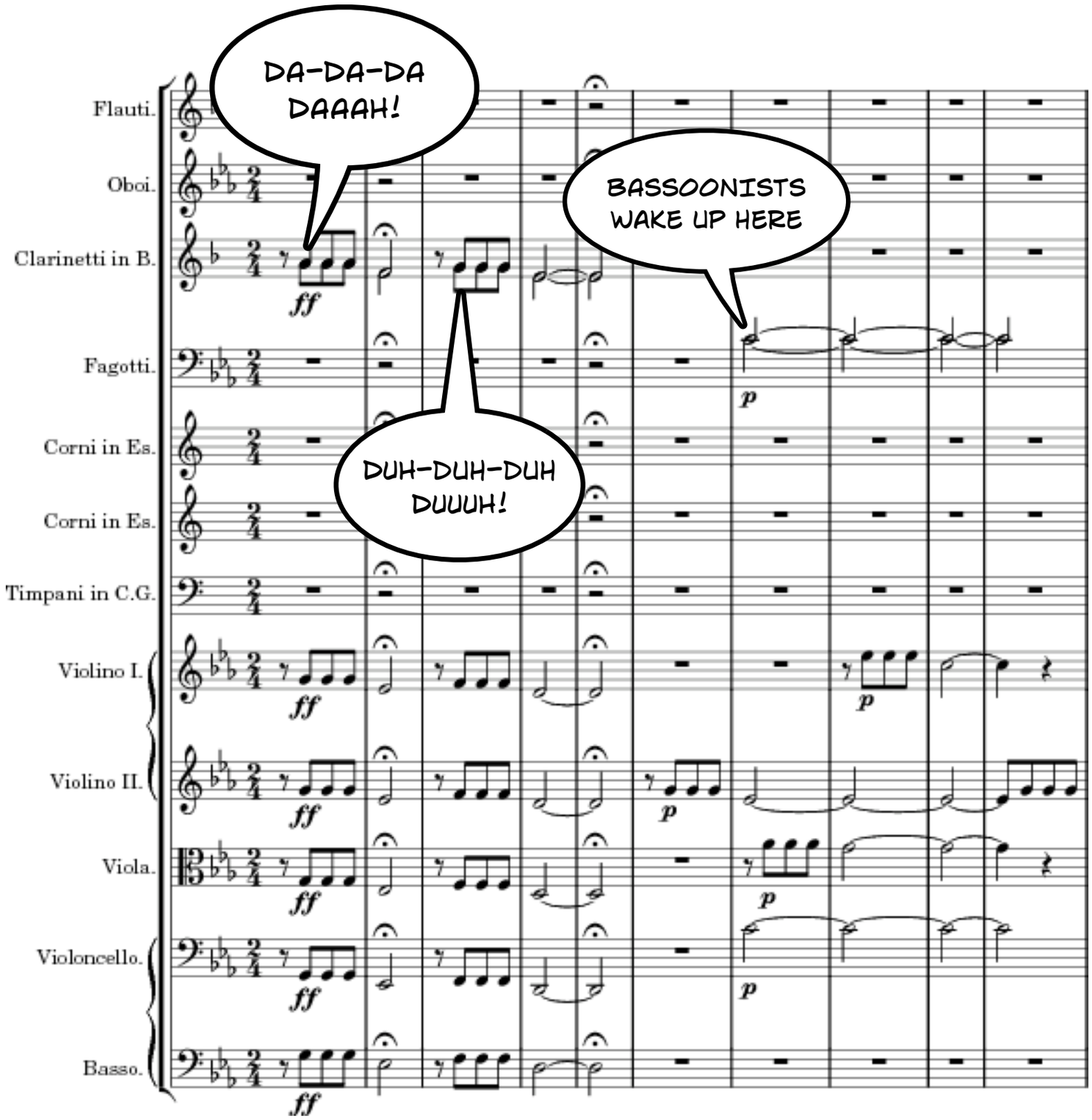
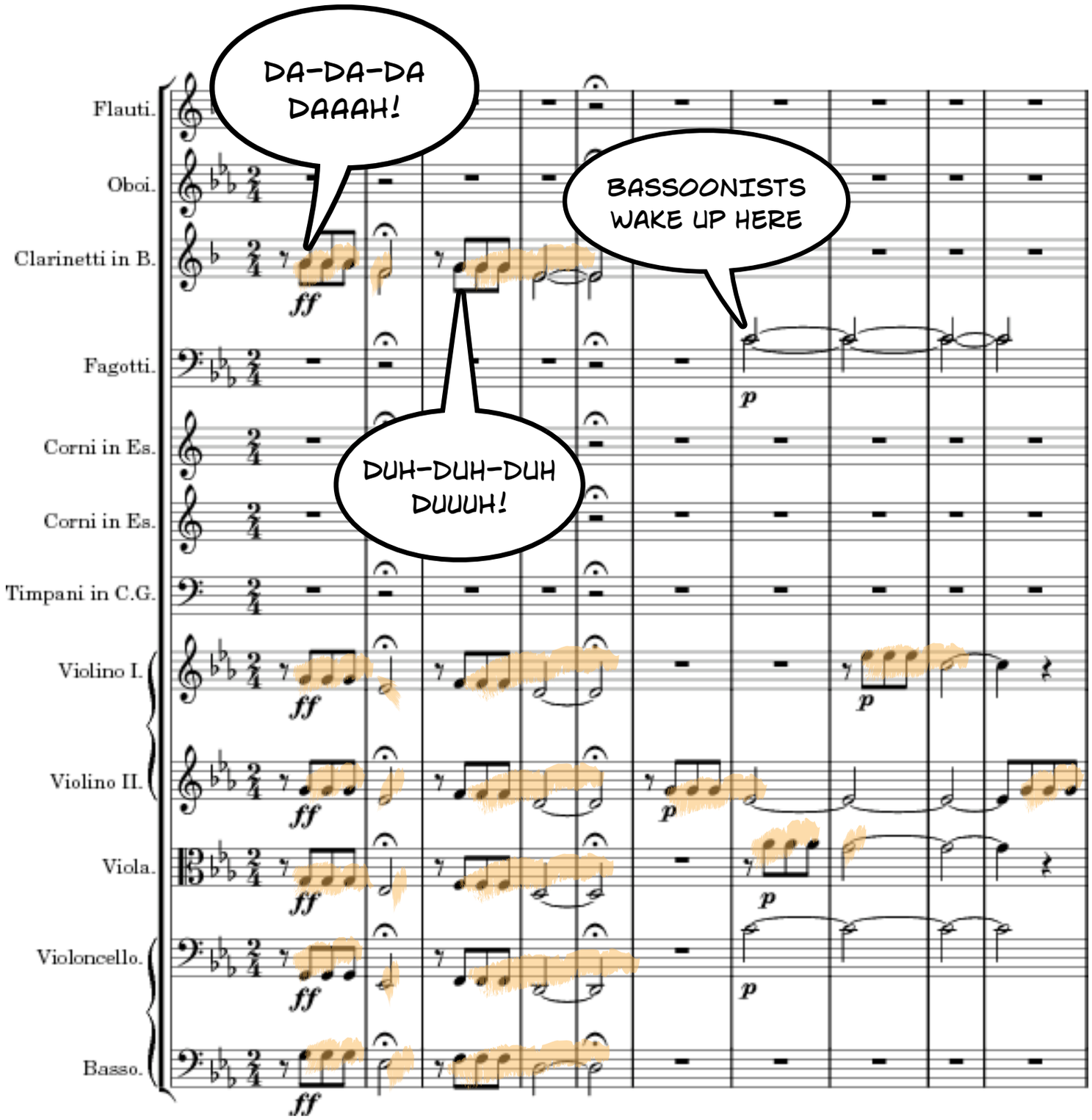

DA-DA-DA
DAAAH!
DUH-DUH-DUH
DUUUH!
BASSOONISTS
WAKE UP HERE
Flauti.
Oboi.
Clarinetti in B.
Fagotti.
Corni in Es.
Corni in Es.
Timpani in C.G.
Violino I.
Violino II.
Viola.
Violoncello.
Basso.
ff
p


DA-DA-DA
DAAAH!
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BASSOONISTS
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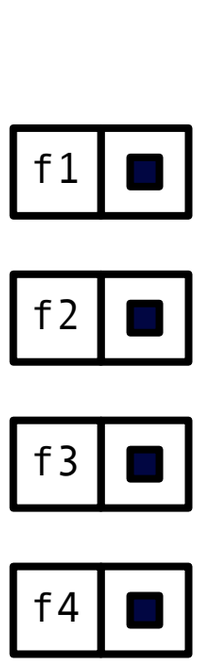
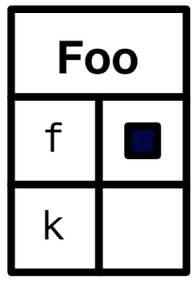
Corni in Es.
Timpani in C.G.
Violino I.
Violino II.
Viola.
Violoncello.
Basso.
ff
p

Case study: animated processes

```
public class Foo {
    private Foo f;
    private int k;

    public Foo(int k) {
        this.k = k;
        this.f = this;
    }

    public void sF(Foo f) {
        this.f = f;
    }

    public static void main(String args) {
        Foo f1, f2, f3, f4;
        f1 = new Foo(1);
        f2 = new Foo(2);
        f3 = new Foo(3);
        f4 = new Foo(4);

        f2.sF(f4);

        f4 = f1;
        // BANG
    }
}
```





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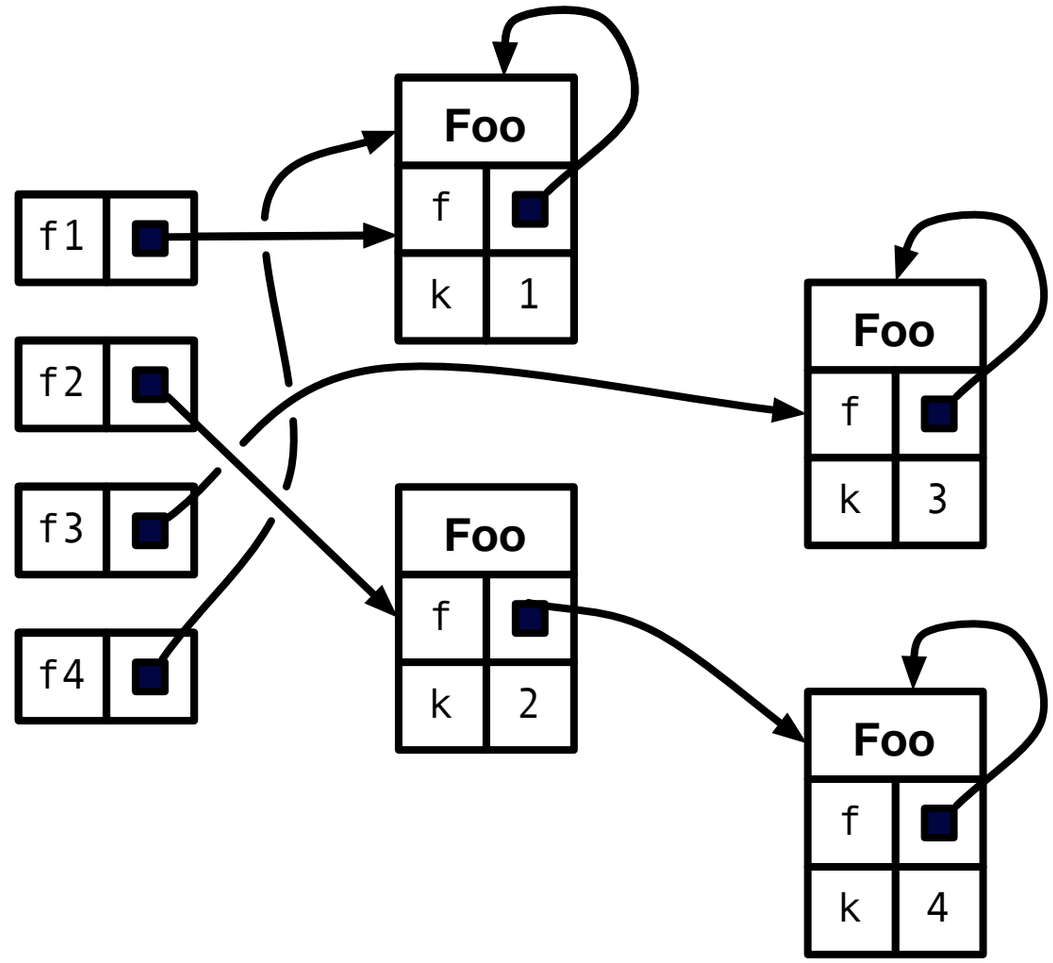
        f4 = new Foo(4);

        f2.sF(f4);

        f4 = f1;
        // BANG
    }
}
```



What else are slides good for?

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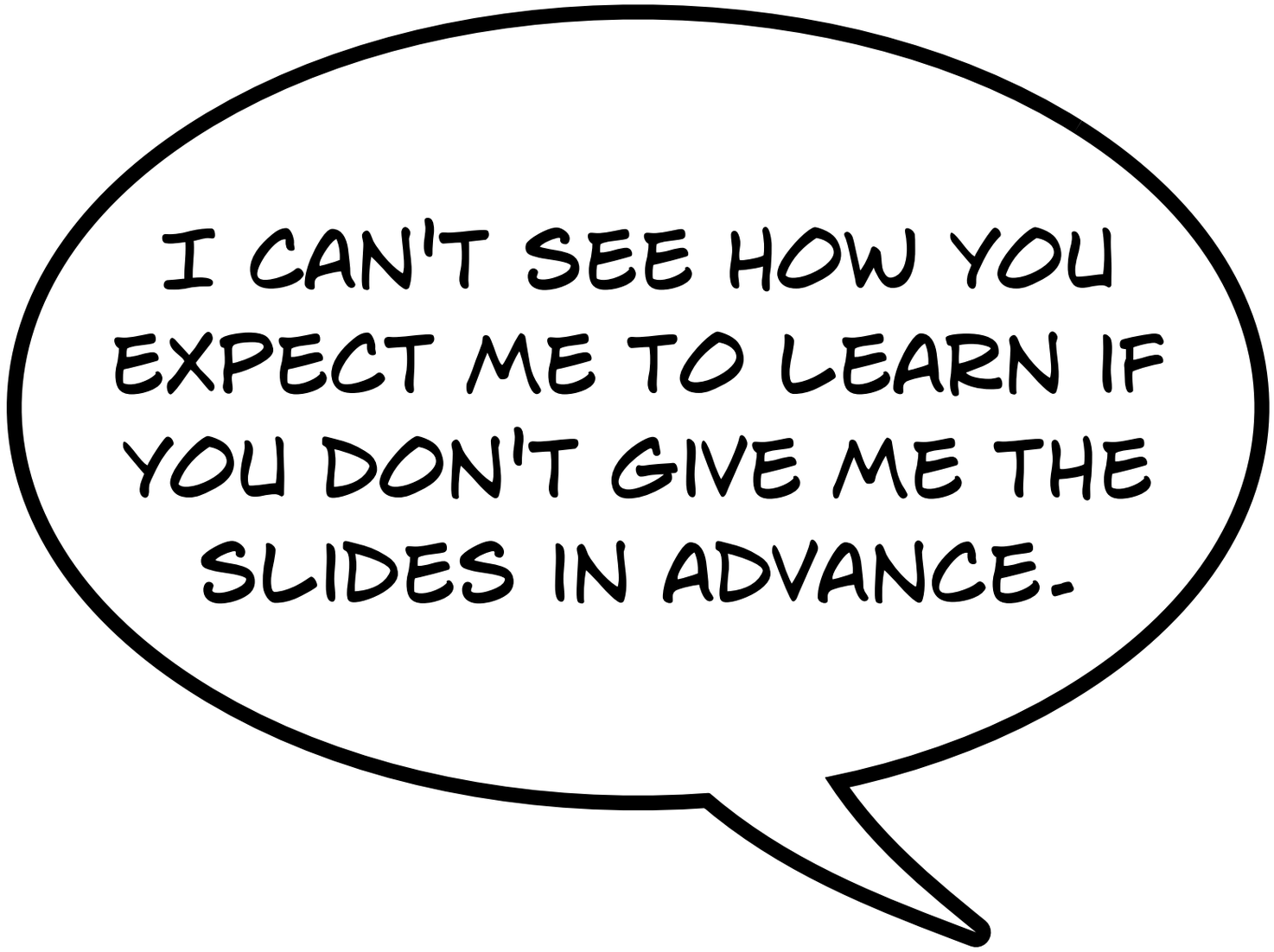
One problem with slides



(Yes, this actually happened.)

The dirty little secret...

...is that I don't want to distribute my slides at all!

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        f2.sF(f4);

        f4 = f1;
        // BANG
    }
}
```

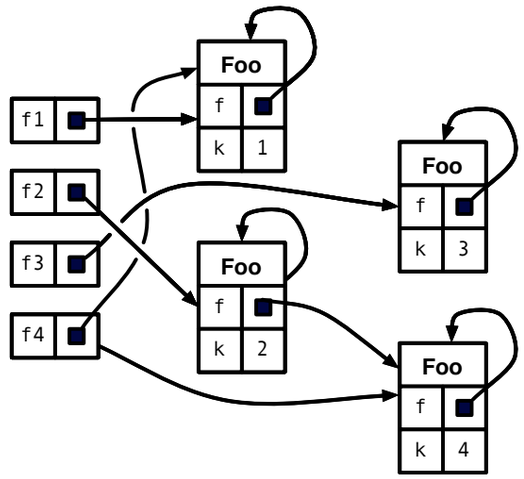

The dirty little secret...

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The quandary

Handouts are the solution

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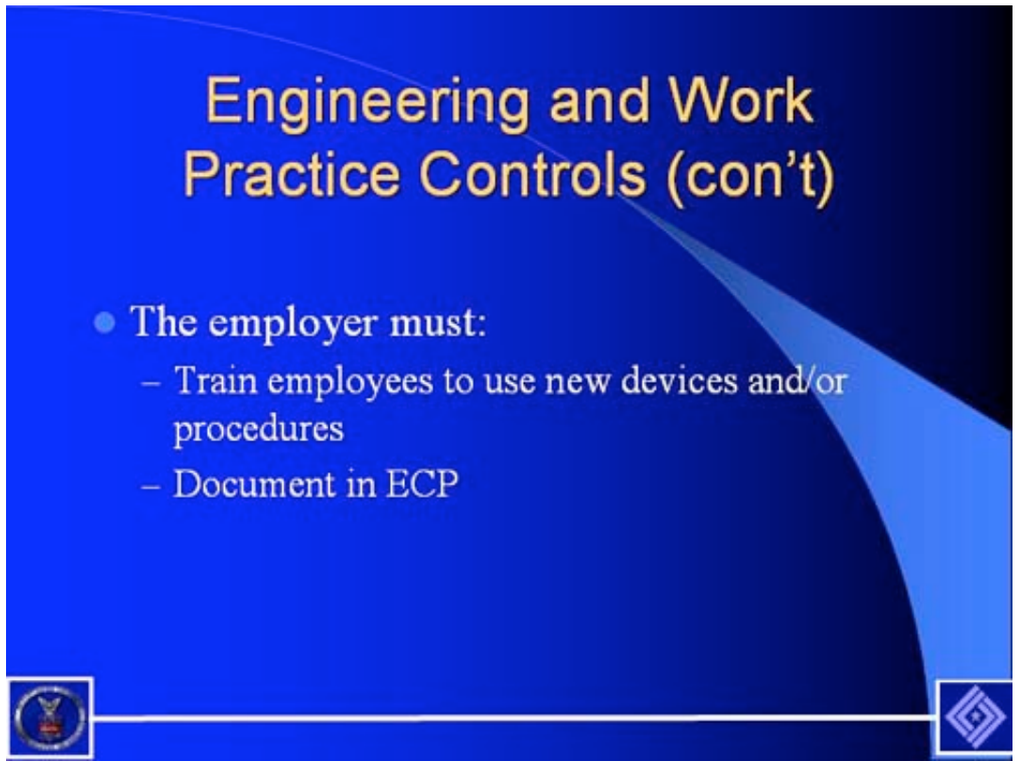
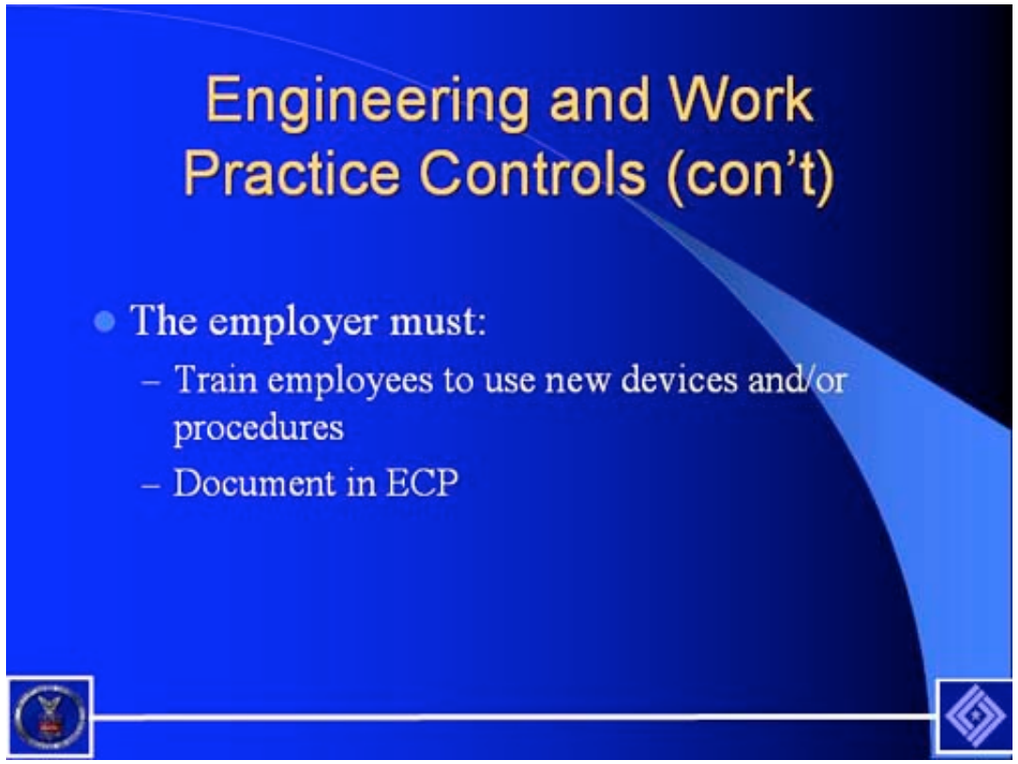
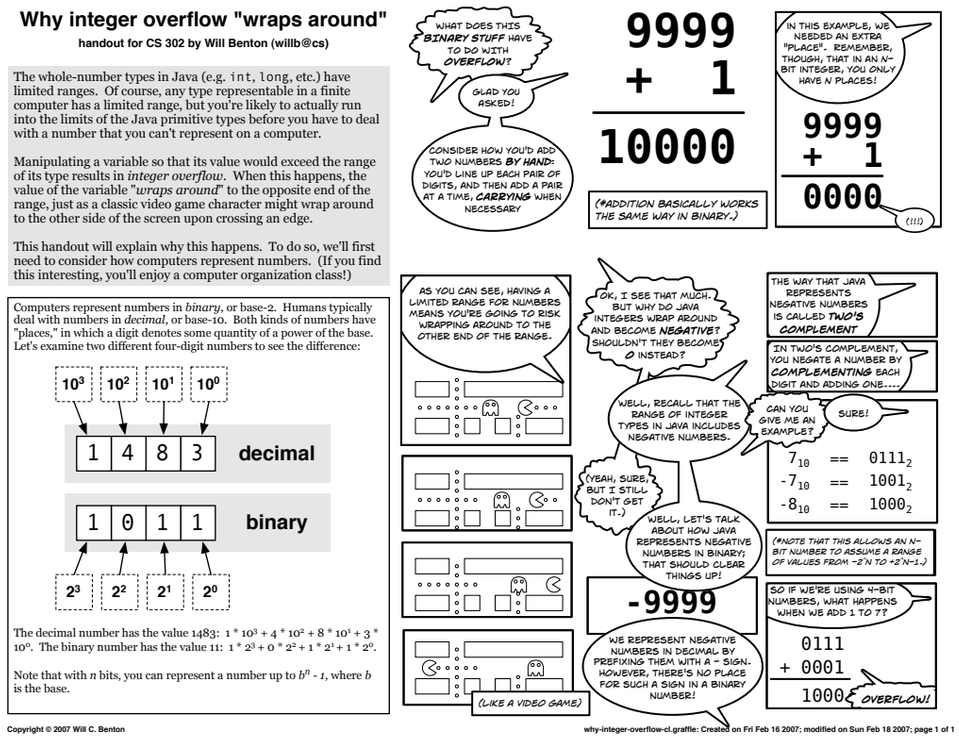


Handouts are the solution





Why integer overflow "wraps around"

handout for CS 302 by Will Benton (willb@cs)

The whole-number types in Java (e.g. `int`, `long`, etc.) have limited ranges. Of course, any type representable in a finite computer has a limited range, but you're likely to actually run into the limits of the Java primitive types before you have to deal with a number that you can't represent on a computer.

Manipulating a variable so that its value would exceed the range of its type results in *integer overflow*. When this happens, the value of the variable "*wraps around*" to the opposite end of the range, just as a classic video game character might wrap around to the other side of the screen upon crossing an edge.

This handout will explain why this happens. To do so, we'll first need to consider how computers represent numbers. (If you find this interesting, you'll enjoy a computer organization class!)

Computers represent numbers in *binary*, or base-2. Humans typically deal with numbers in *decimal*, or base-10. Both kinds of numbers have "places," in which a digit denotes some quantity of a power of the base. Let's examine two different four-digit numbers to see the difference:

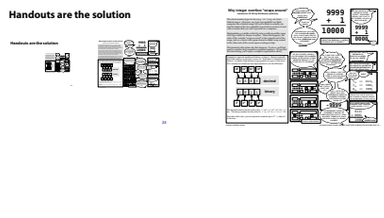
The decimal number has the value 1483: $1 * 10^3 + 4 * 10^2 + 8 * 10^1 + 3 * 10^0$. The binary number has the value 11: $1 * 2^3 + 0 * 2^2 + 1 * 2^1 + 1 * 2^0$.

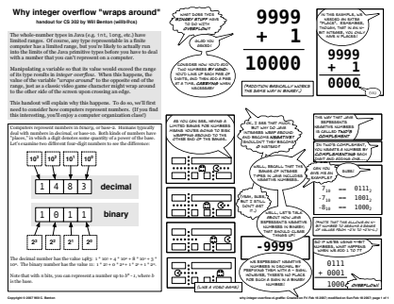
Note that with n bits, you can represent a number up to $b^n - 1$, where b is the base.

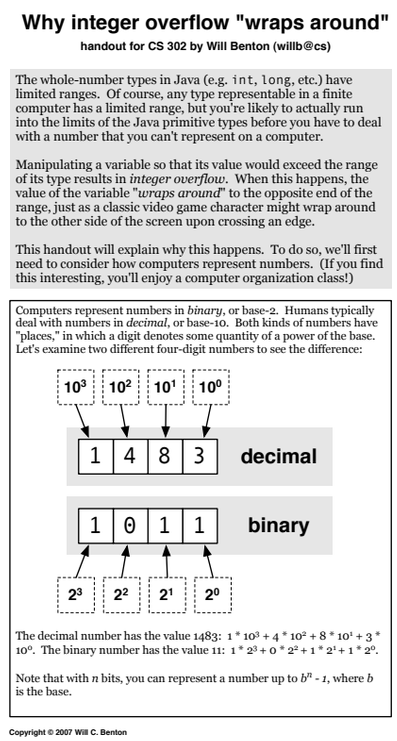
why-integer-overflow-cl.graffle: Created on Fri Feb 16 2007; modified on Sun Feb 18 2007; page 1 of 1

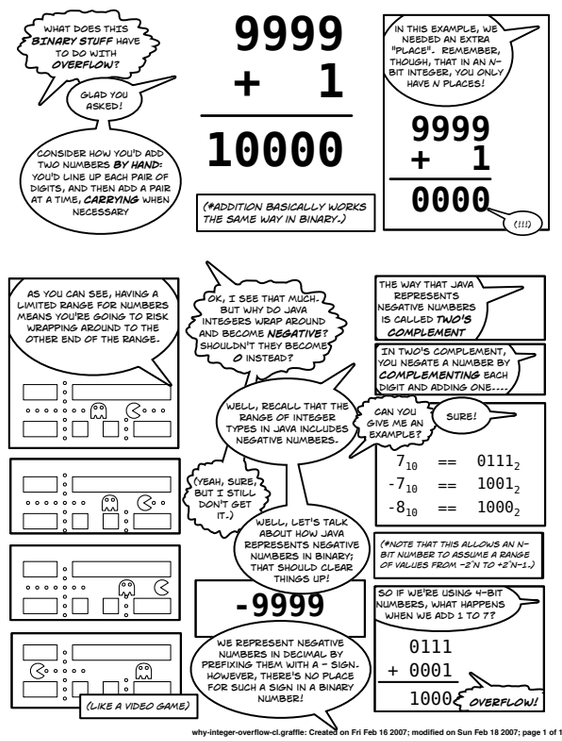
Handouts are the solution

Handouts are the solution









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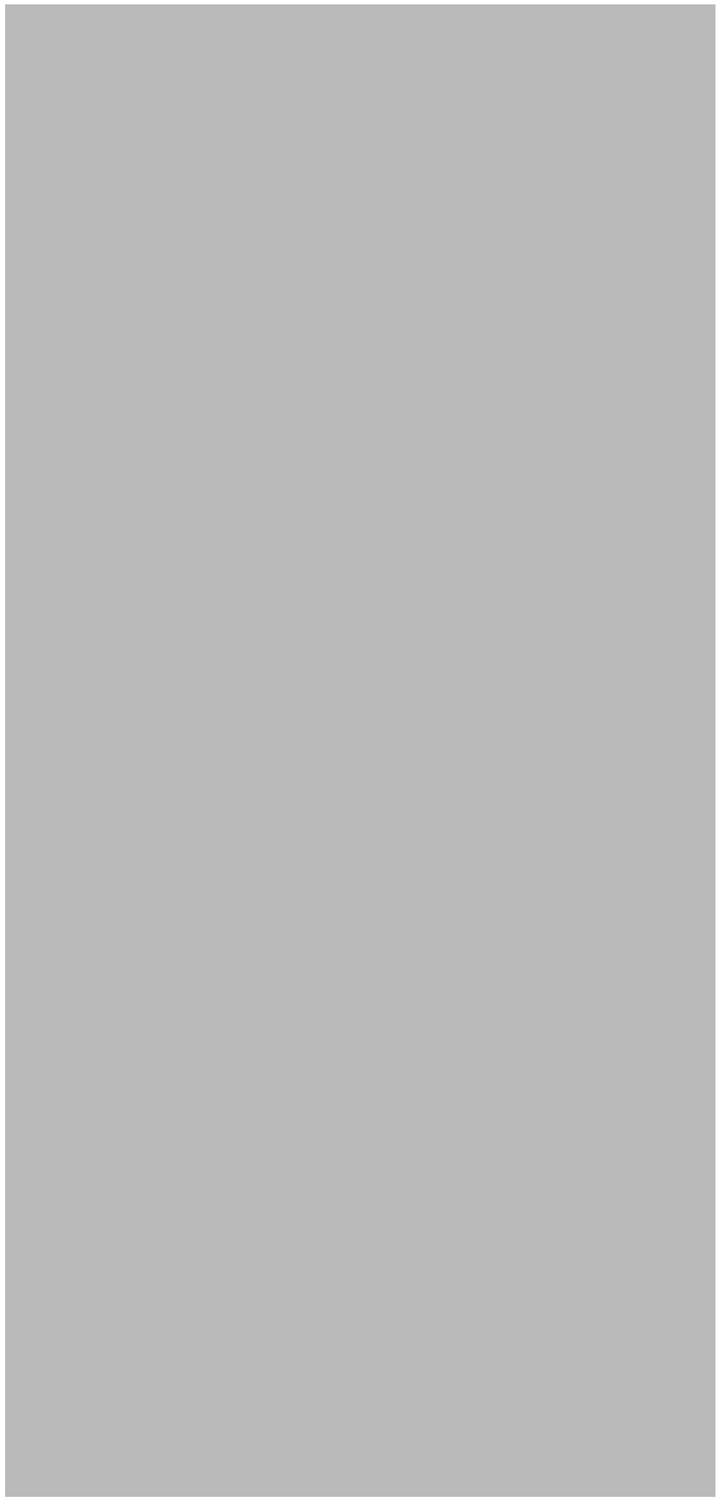

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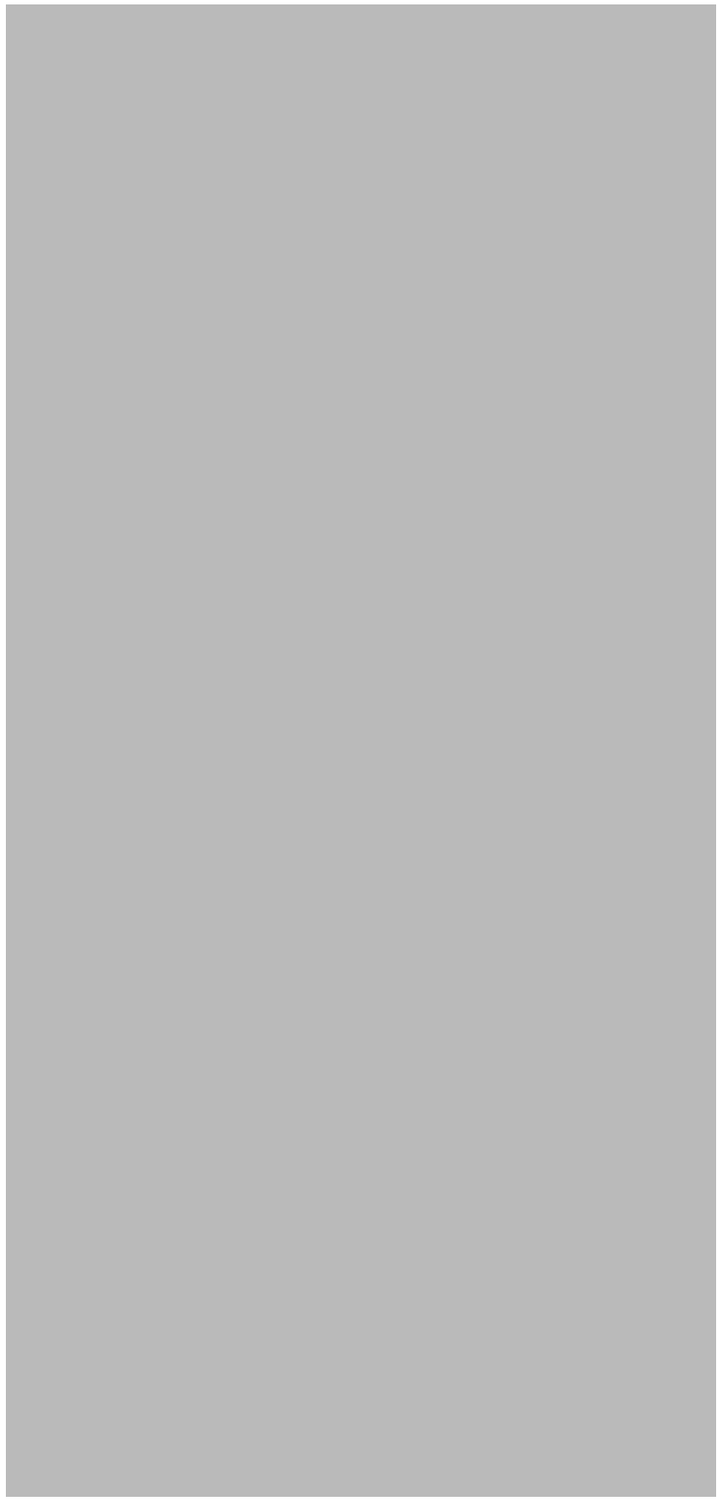

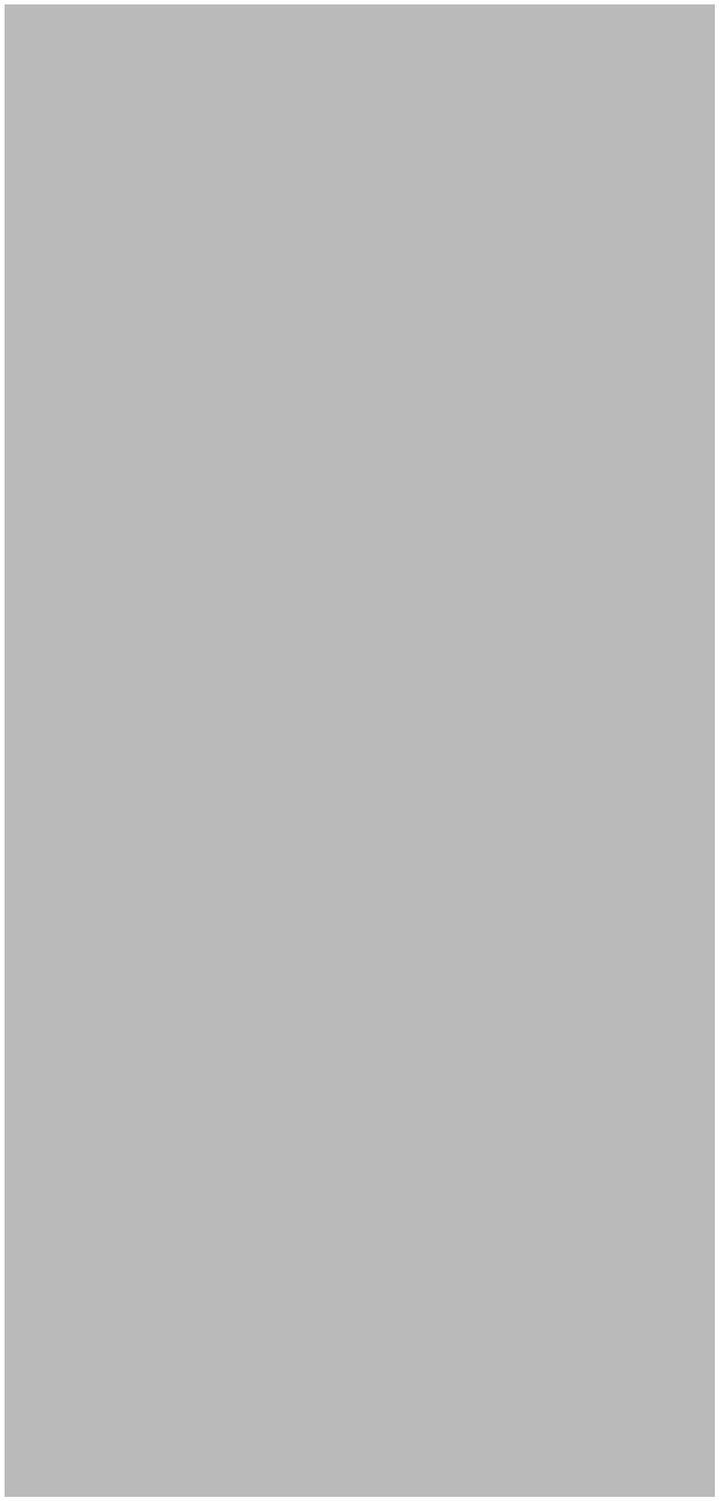

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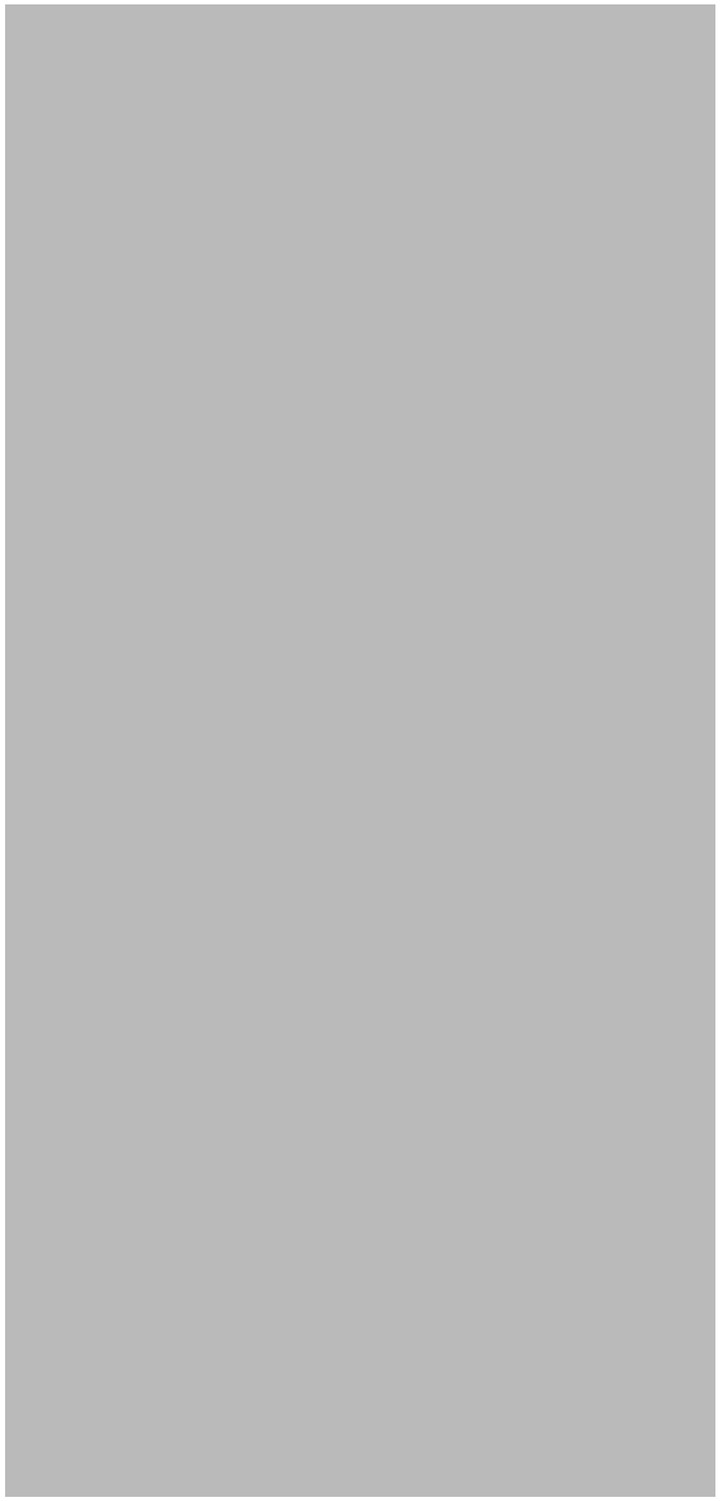

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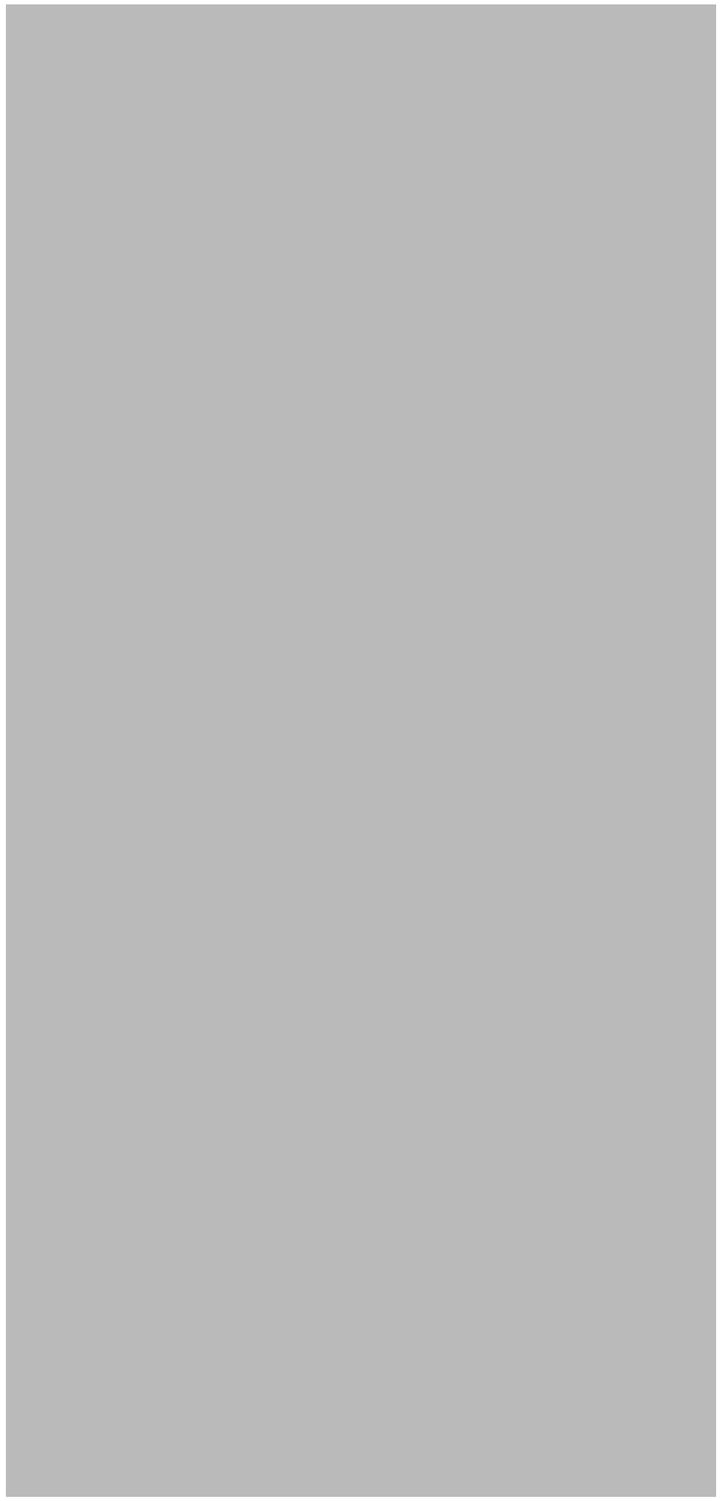

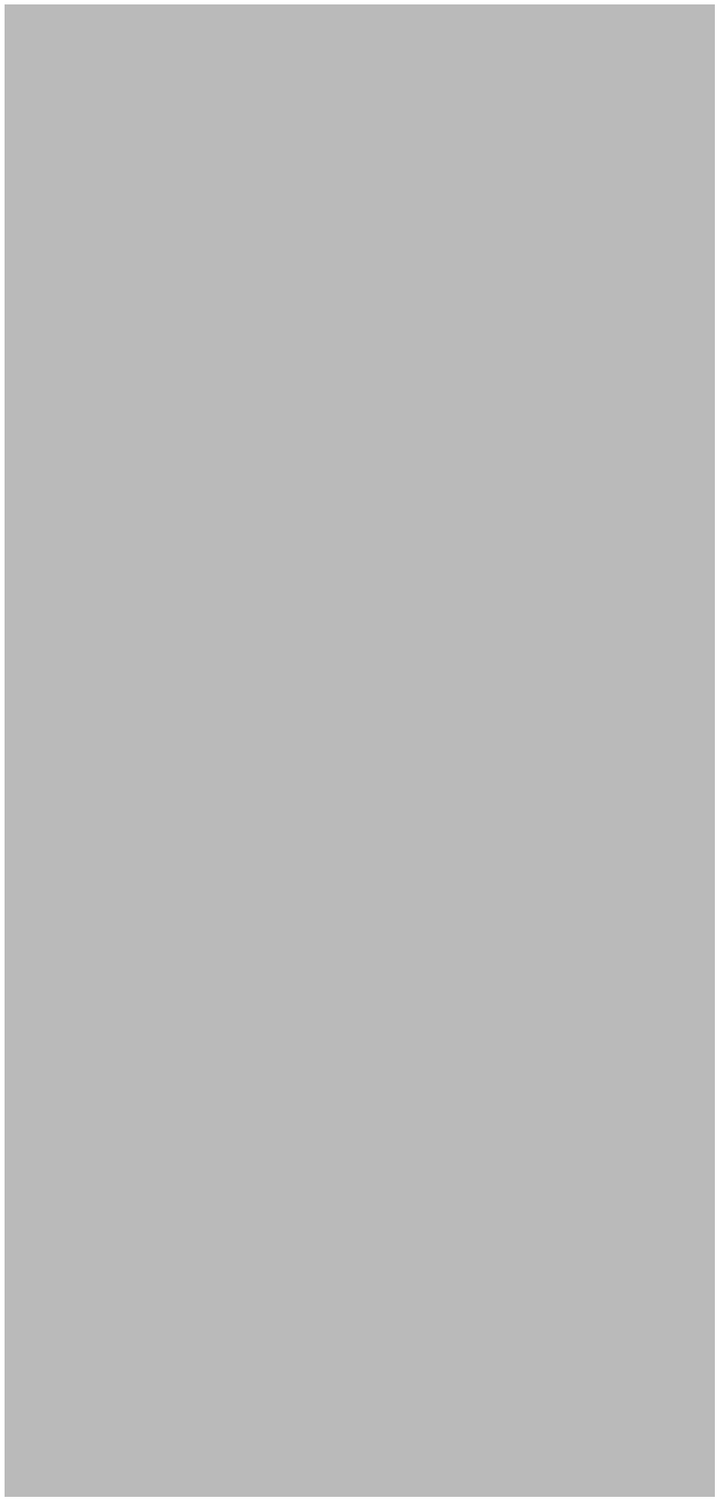

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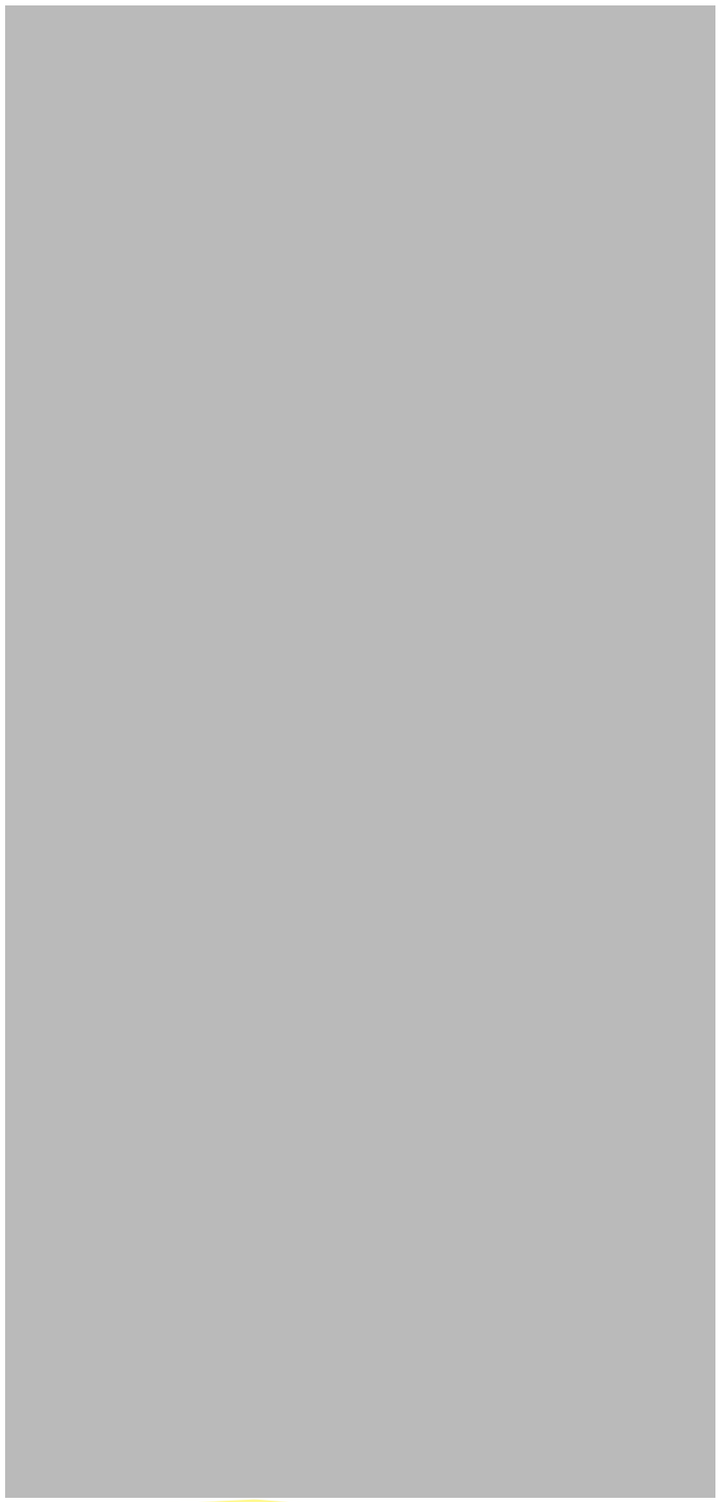

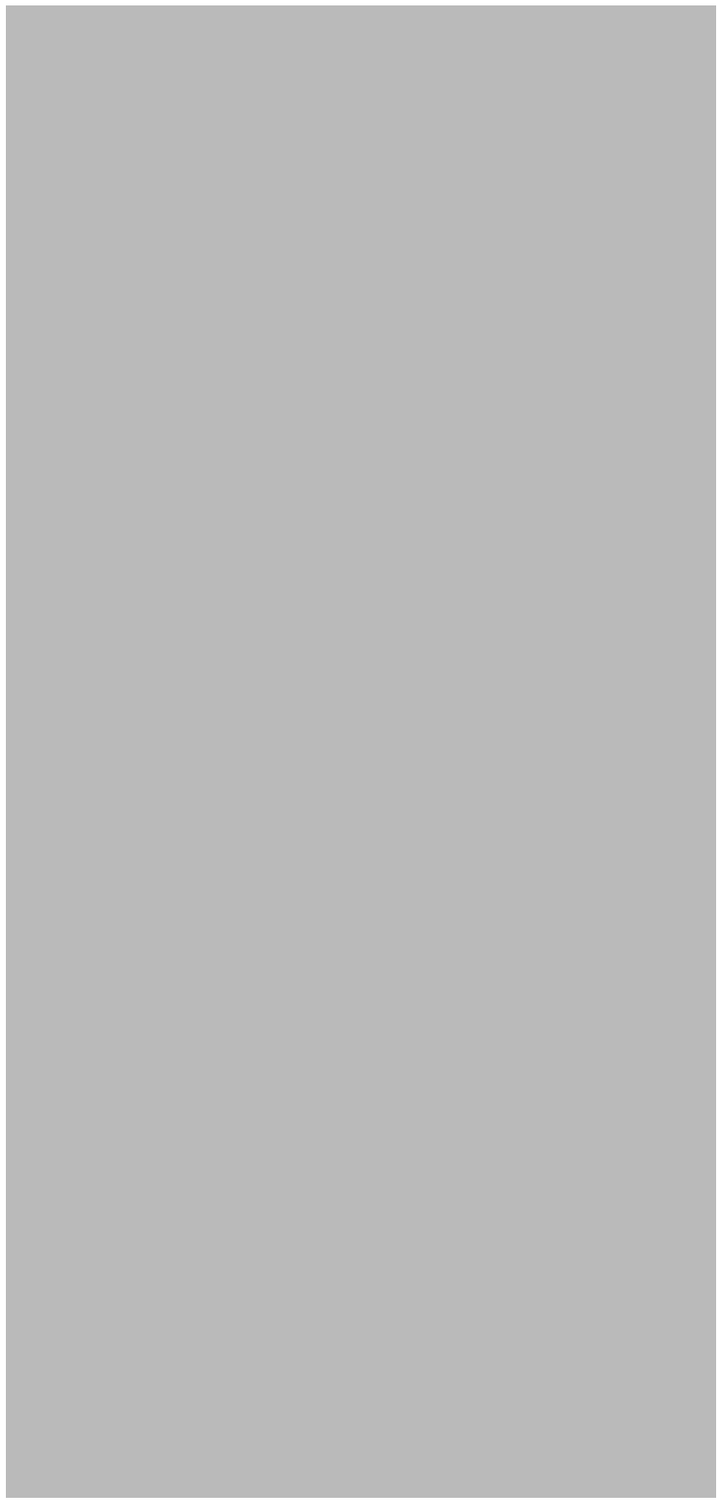

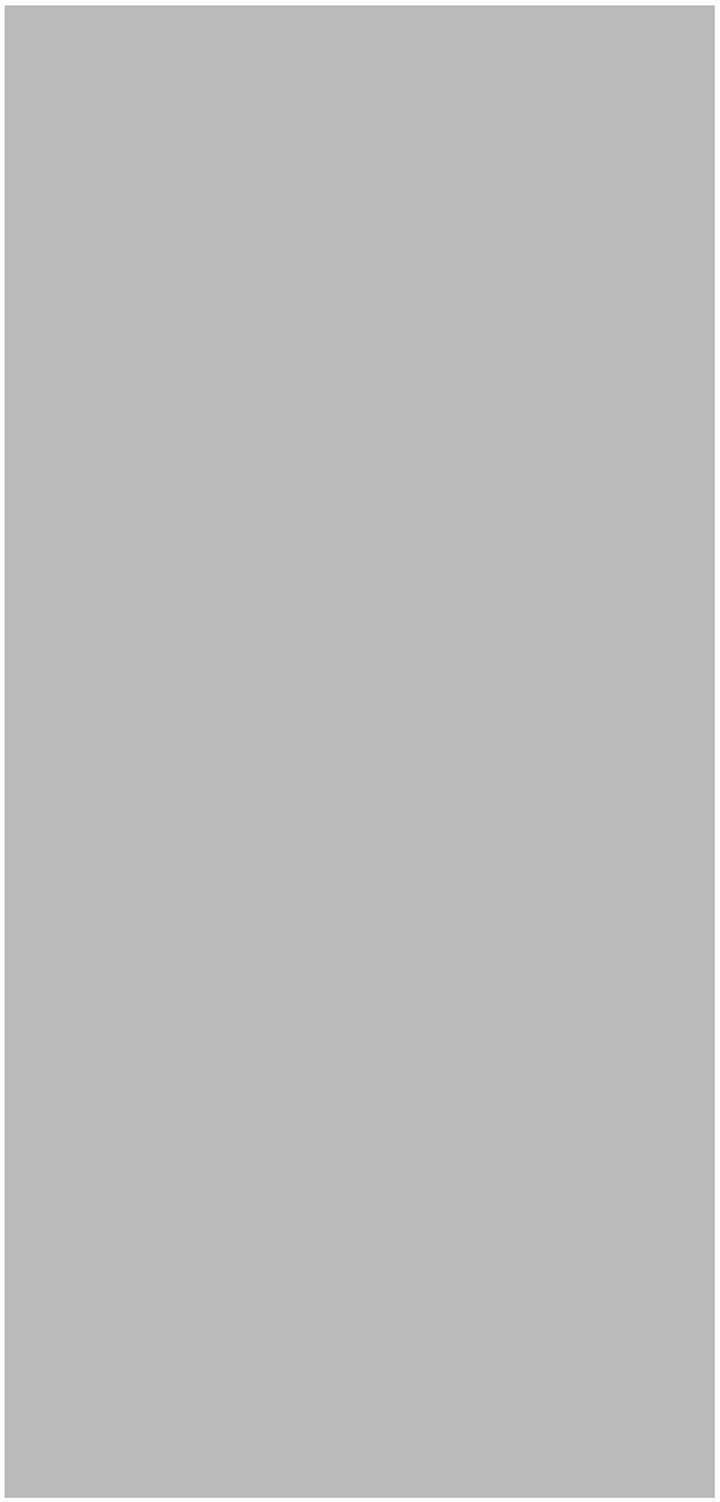

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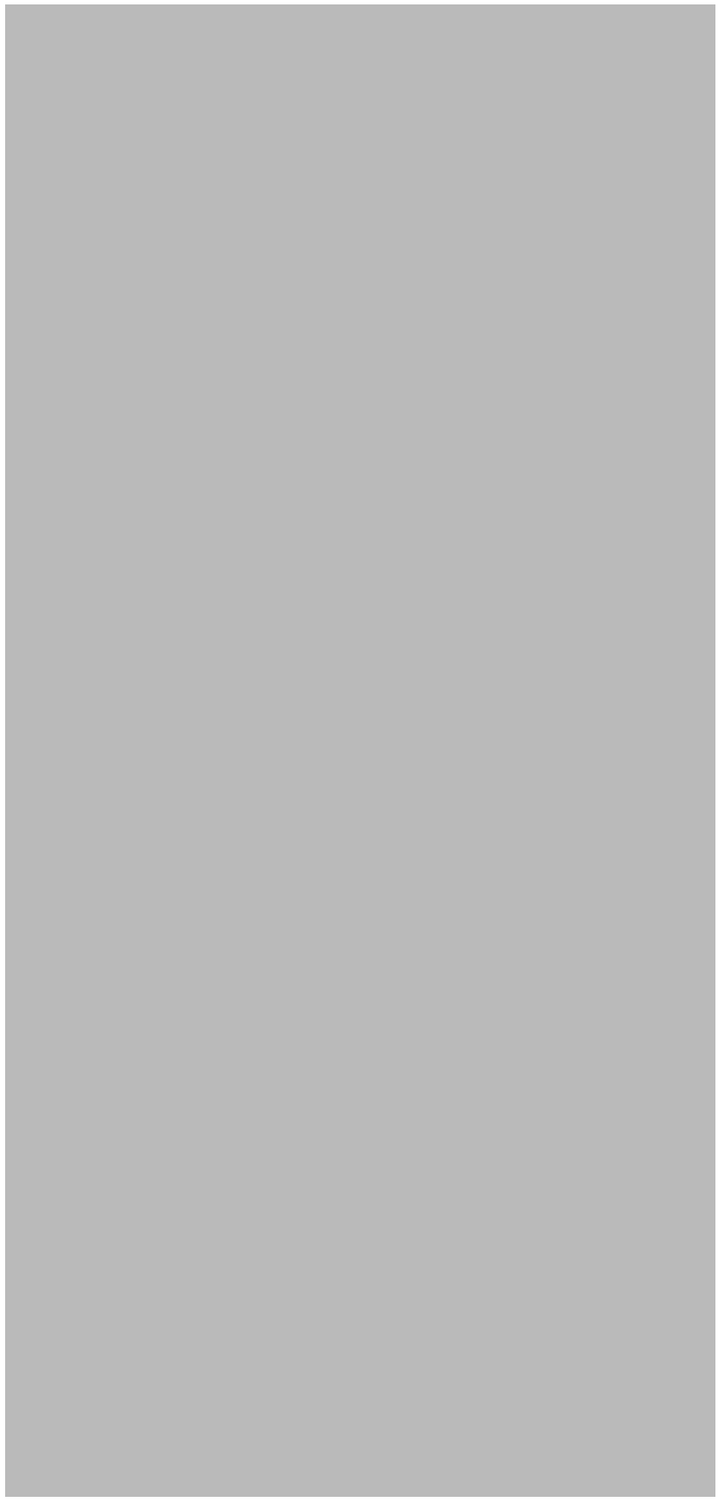

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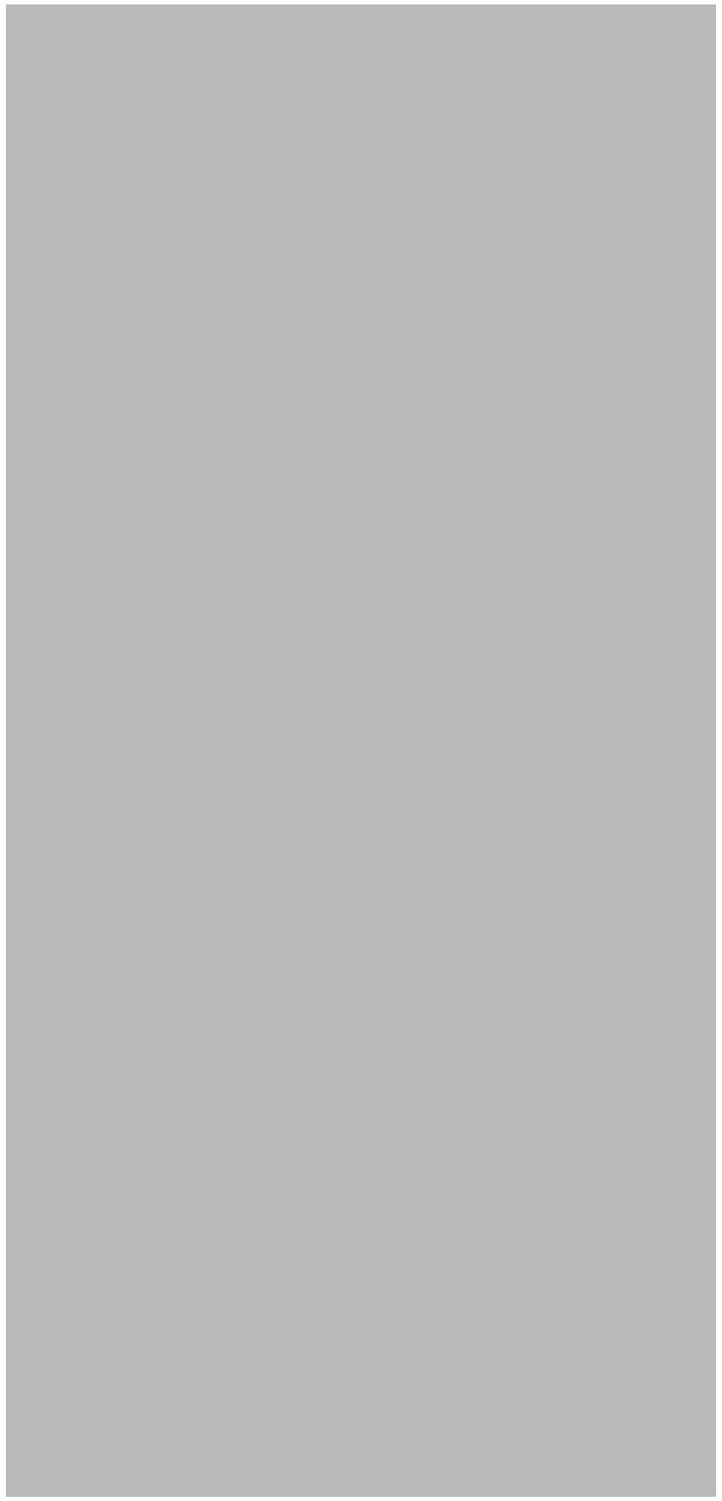

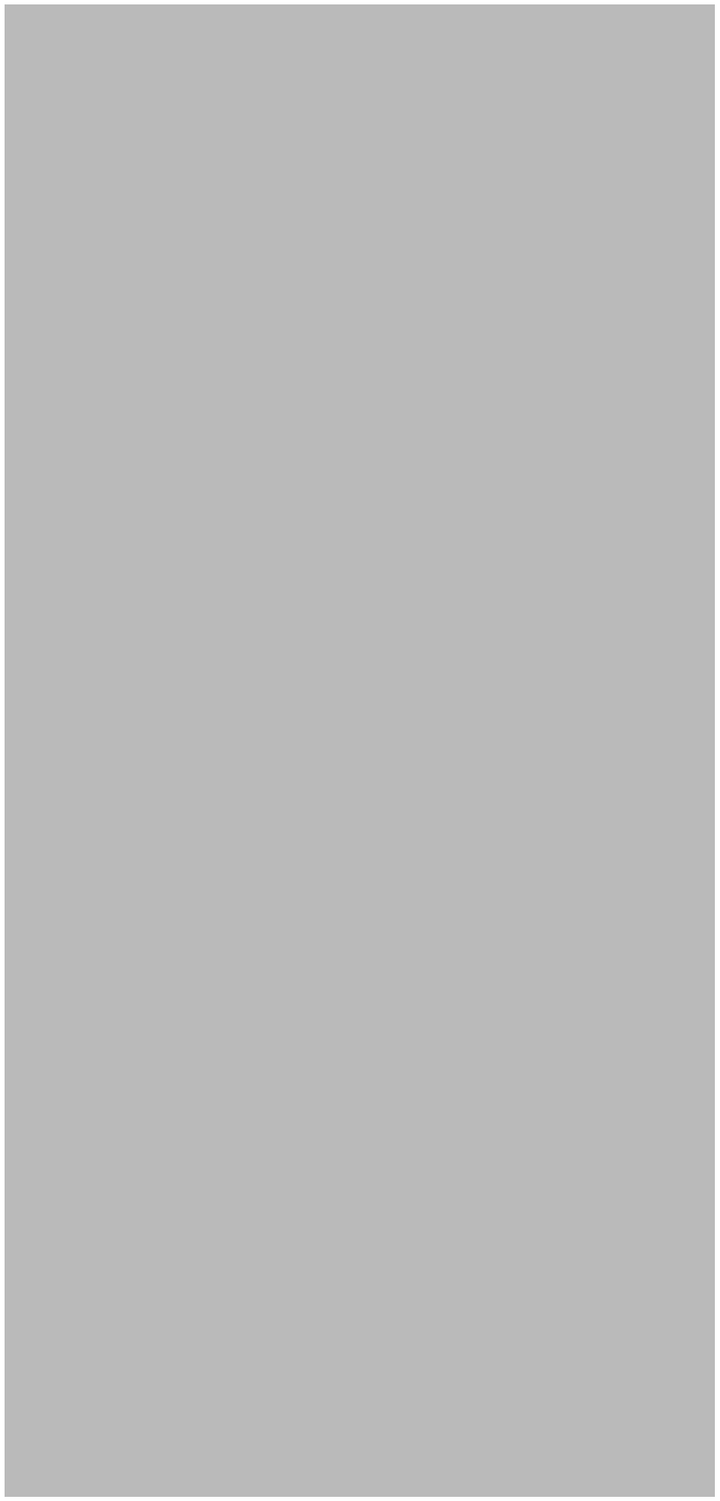

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See *The anatomy of a simple handout* for more

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“I’m already overworked.”


OK, THAT HANDOUT IS FINE. NOW CAN I HAVE THE POWERPOINTS?

Forecast

- When and how to use slides
- Why and how to make handouts
- How to make your life easier
- Teaching the Facebook generation

Learn the software

Build your own templates

Use “variables”

Your favorite tip here....

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Technology and experience