



Norwegian School of Management

# Datanalyse endrer seg

Mer informasjon, mer data, flere forbindelser

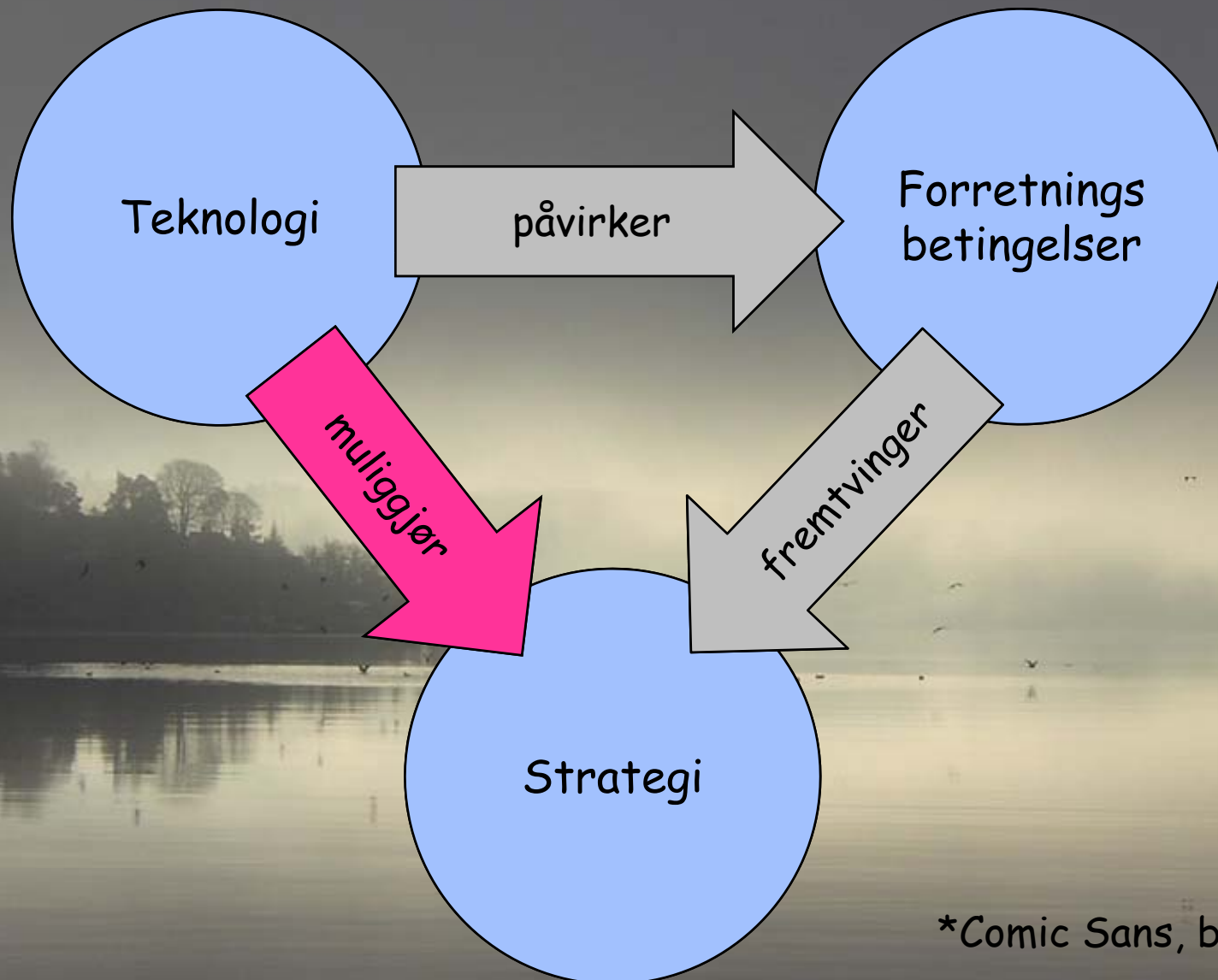


BOB/NIB brukerkonferanse  
Holmenkollen Park Hotel, Oslo  
8. februar 2011

Espen Andersen, DBA  
Førsteamanuensis  
Handelshøyskolen BI

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[self@espen.com](mailto:self@espen.com)

# Mitt mål her i livet\*...



\*Comic Sans, basta...



- Proprietary
- Modularized
- Commoditized
- Ubiquitous
- Unnoticed

## Technology phases

# Den vanskeligste konkurransen er den man ikke kan forholde seg til

(PEPPERNET.NO)  
**pepper**

Delikatesser i Utsøkt  
- Dagbladet 25.11.04

hjem - Peppernet - Oppskrifter - Sjømat oversikt - Ovnsbakt laksefilet med ruccola og vinaigrette

- Akademiet
- Internasjonalt
- Aktuelt
- Oppskrifter
- Menyer
- Vinspalten
- Lenker
- Om peppernet

Snarveier:

Drinker

## Ovnsbakt laksefilet med ruccola og vinaigrette

26.06.2003

Tid ca 20 min  
Til 4 porsjoner

ca 600 gram laksefilet med skinn  
1 pk rucolasalat  
4 ss olje  
1 ss rødvinseddik/vinseddik  
salt og pepper  
(evt. 1 dl hvitvin)

Sett ovnen på lav varme, ca 100°C. Gni inn laksefileten med salt. Ta en kjele med lokk som passer til fileten (den kan evt. deles opp) og kok opp 2 dl vann, eller 1 dl vann og 1 dl vin. Ha i fisken og legg på lokket. Sett i stekeovnen i ca 15 min. Ta ut fisken og dra av skinnen. Hvis skinnen ikke løsner lett, er ikke fisken ferdig. Vask og tørk rucolablādene. Rør sammen olje og eddik og vend rucolablādene i vinaigretten. Dryss salt og nykværnet svart pepper over. Rucola har såpass mye kryddersmak i seg selv at det ikke er strengt nødvendig med eddik. Salt, pepper og olje er egentlig nok. Legg en eng av rucola salat plasser fiskestykket på toppen, pynt evt. med finhakket løk og litt salat på toppen.

**I samme kategori:**

- Abbotårn med wonton
- Ål med speilegg og teriyakisaus
- Asiatisk fiskegryte med teriyakisaus
- Avocado og reker
- Bacalao med dampet torsk
- Baguette med tunfisk
- Baguetteskal ker med røkelaks
- Bakt gjedde med sesamfrø
- Bakt harr med asparges og sopp
- Bakt kveite gorgonzola
- Bakt laks
- Bakt laks med skinke
- Bakt steinbit med sydens grønnsaker
- Bakt torsk
- Bakt torsk med bakte grønnsaker



Web [Images](#) [Groups](#) [News](#) [Froogle](#) [Local](#) [Desktop](#) [more »](#)

laks ruccola pepper

Google Search

I'm Feeling Lucky

[Advanced Search](#)  
[Preferences](#)  
[Language Tools](#)

Finn

# Technology cost changes behavior

- With lowered communication cost, we substitute communication for planning\*
- With lowered search cost, we substitute search for categorization\*\*

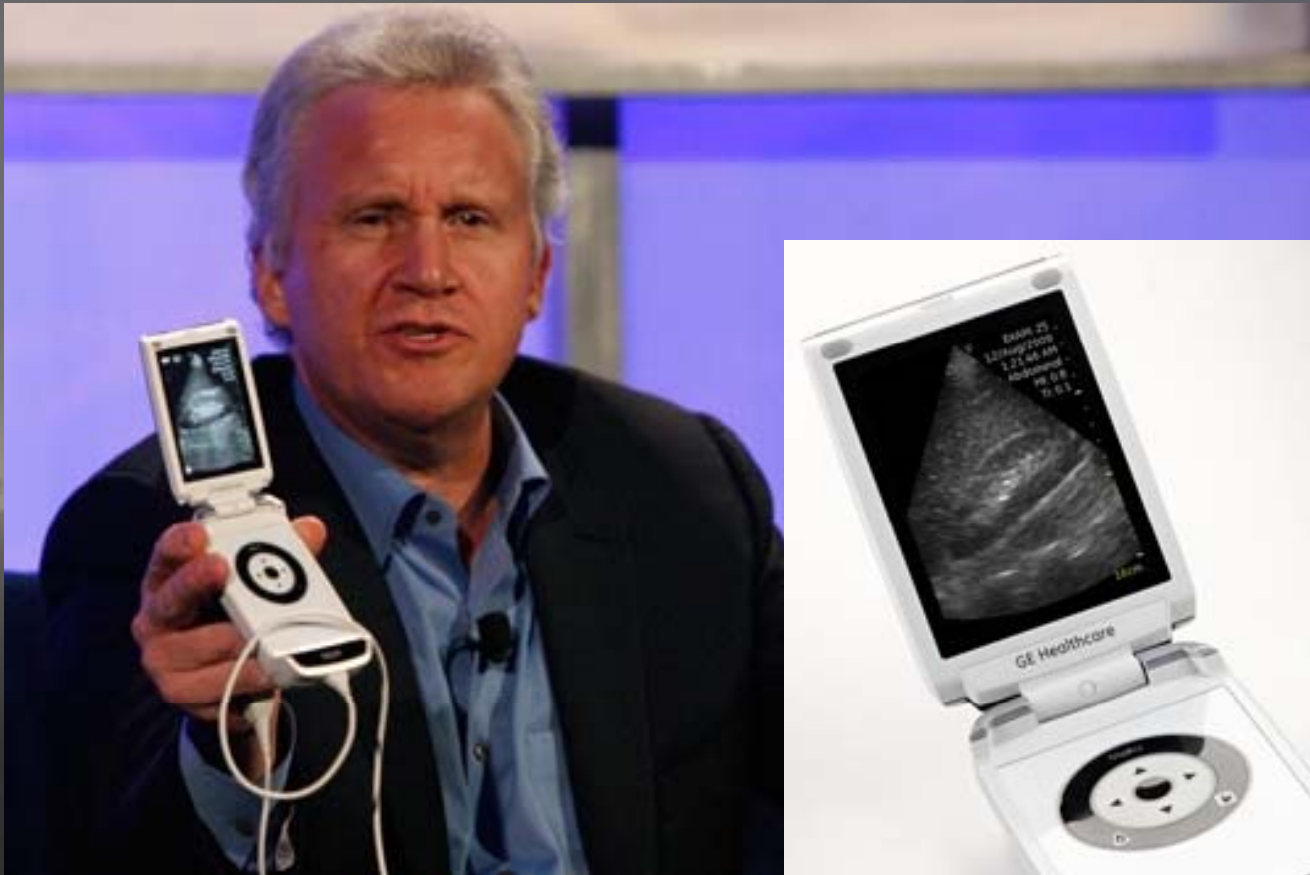
\* Andersen, E. (2002) Attendre le Suitcase, *ACM Ubiquity*, 3 (7)

\*\* Andersen, E. (2006) The waning importance of categorization. *ACM Ubiquity* 7 (19)

# Dataanalyse

- Mengde
- Informasjon
- Sammenhenger
- Fremvisning
- Resultat

# Sensorer leverer data



Source [www.gereports.com/vscan-pocket-sized-ultra-smart-ultrasound-unveiled/](http://www.gereports.com/vscan-pocket-sized-ultra-smart-ultrasound-unveiled/)

# Lekkasjer flytter data



Clas Ohlson: 279,-

# Tenk om du kunne huske alt?



[www.computing.dcu.ie/~cgurrin/](http://www.computing.dcu.ie/~cgurrin/)

**SENSECAM VIEWER** Close

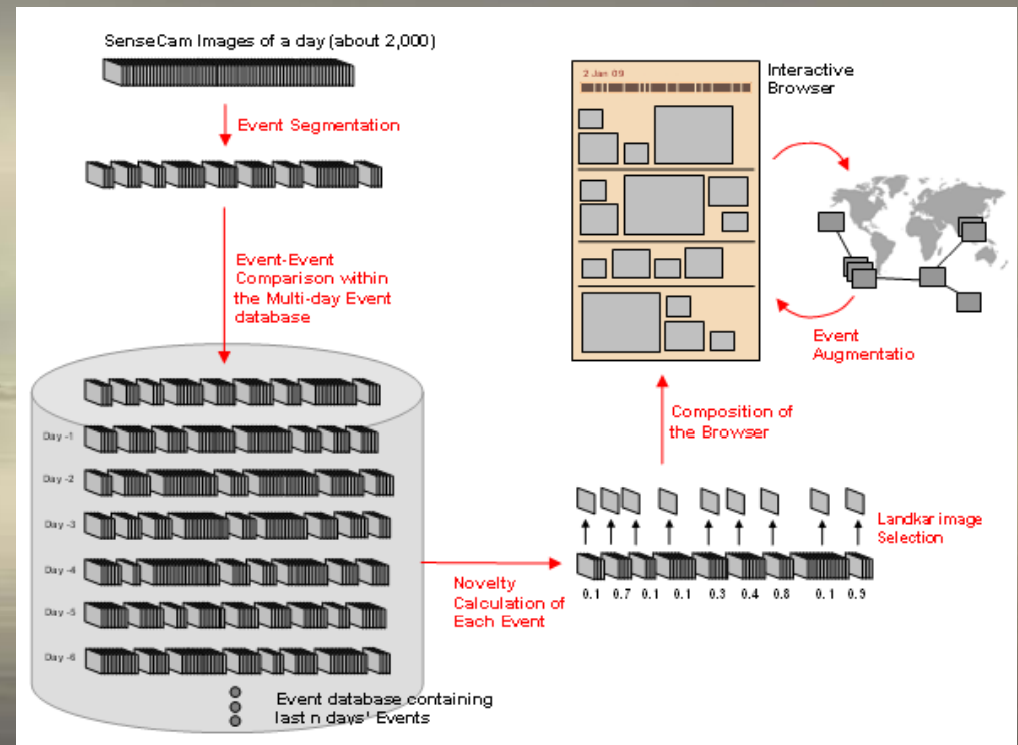
**Friday**  
09 October 2009

1541 Photos (13:34 - 18:48)  
You can touch one of the events below to view the photos within it.

**Show Calendar**  
Touch the button above to view different days

**Add**  
**Help**

13:34 pm	13:39 pm	13:44 pm	14:02 pm
15:31 pm	15:36 pm	16:21 pm	16:25 pm
17:20 pm	17:38 pm	17:50 pm	18:01 pm
18:34 pm	18:38 pm	18:41 pm	



# Enkle verktøy gir dataanalyse til folket.....



The NEW ENGLAND  
JOURNAL of MEDICINE

At a recent case conference with a distinguished visiting professor, a fellow in allergy and immunology presented the case of an infant with diarrhea; an unusual rash ("alligator skin"); multiple immunologic abnormalities, including low T-cell function; tissue eosinophilia (of the gastric mucosa) as well as peripheral eosinophilia; and an apparent X-linked genetic pattern (several male relatives died in infancy). The attending physicians and house staff discussed several diagnostic possibilities, but no consensus was reached. Finally, the visiting professor asked the fellow if she had made a diagnosis, and she reported that she had indeed and mentioned a rare syndrome known as IPEX (immunodeficiency, polyendocrinopathy, enteropathy, X-linked). It appeared to fit the case, and everyone seemed satisfied. (Several weeks later, genetic testing on the baby revealed a mutation in the FOXP3 gene, confirming the diagnosis.)

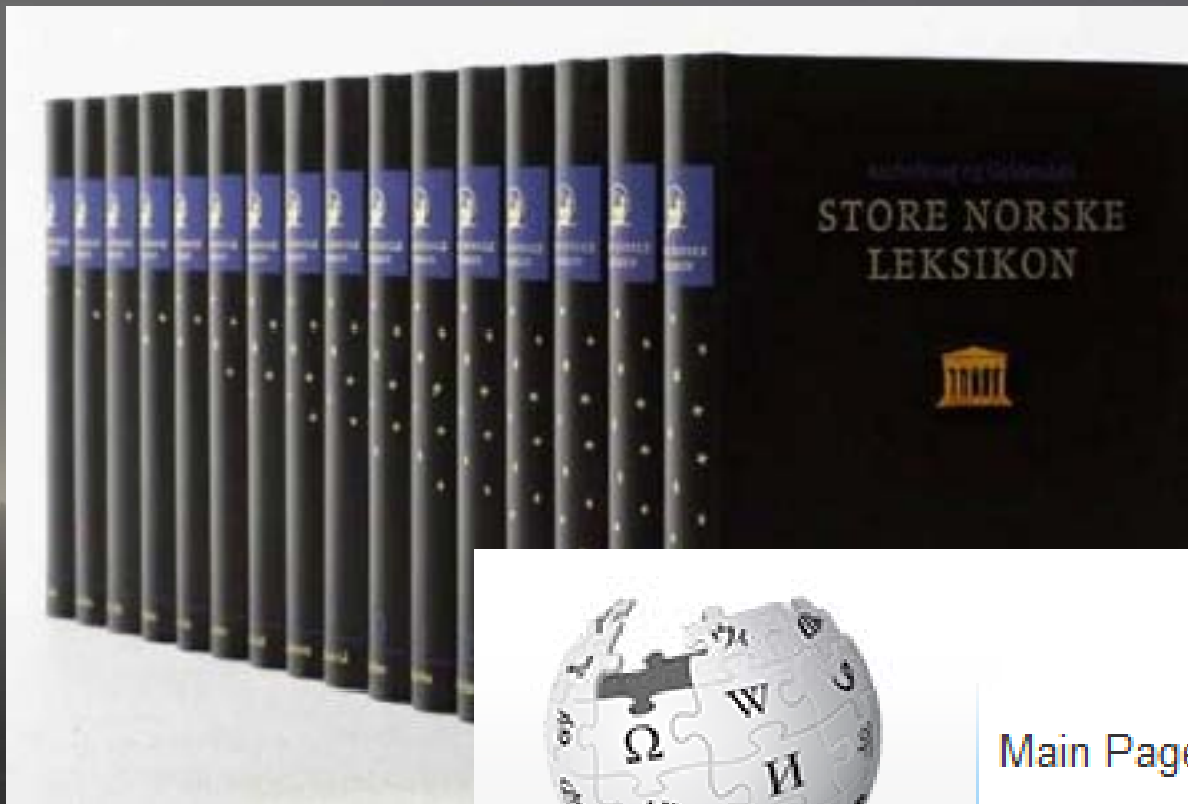
"How did you make that diagnosis?" asked the professor. Came the reply, "Well, I had the skin-biopsy report, and I had a chart of the immunologic tests. **So I entered the salient features into Google, and it popped right up.**"

"William Osler," I offered, "must be turning over in his grave. You googled the diagnosis?"

Where does this lead us? **Are we physicians no longer needed?** Is an observer who can accurately select the findings to be entered in a Google search all we need for a diagnosis to appear, as if by magic? The cases presented at clinicopathological conferences can be solved easily; no longer must the discussant talk at length about the differential diagnosis of fever with bradycardia. Even worse, the Google diagnostician might be linked to an evidence-based medicine database, so a computer could e-mail the prescription to the e-druggist with no human involvement needed. The education of house staff is morphing into computer-search techniques. Surely this is a trend to watch.

– Robert Greenwald, M.D., (November 2005)

# Hva er egentlig datakvalitet - og hvordan skaper man den?



**WIKIPEDIA**  
The Free Encyclopedia

[Main Page](#)

[Discussion](#)

**Welcome to Wikipedia,**  
the free encyclopedia that anyone can edit.

3,553,045 articles in English



# GWAP: Games With a Purpose

<http://www.espgame.org/gwap/>

## Play the Games, Change the Web.

When you play a game at Gwap,  
you aren't just having fun.

Learn More

Register

Gender  
Guesser

Prizes

Best  
Images

 **ESP Game**  
Concentrate...

What do you see  
in an image?  
Do you have ESP?





Hvor i en maurtue sitter kunnskapen om hvordan man lager en maurtue?



[http://commons.wikimedia.org/wiki/File:Xn\\_ant\\_hill.jpg](http://commons.wikimedia.org/wiki/File:Xn_ant_hill.jpg)

### Patch Procedures

```
to patch-setup
patches-have [pheromone food nest? nest-scent]
set-pheromone 0
set-diffusion-rate 0.15
setup-nest
setup-food
activate-demon [diffuse-demon evaporate-demon
                update-colors-demon]
end

to setup-nest
ifelse (distance 0 0) < 5
  [set-nest? true
   set-nest-scent 1000]
  [set-nest? false
   set-nest-scent 0]
repeat 100 [diffuse nest-scent]
end

to setup-food
ifelse (distance 30 0) < 4
  [set-food 1 + random 3]
  [set-food 0]
end

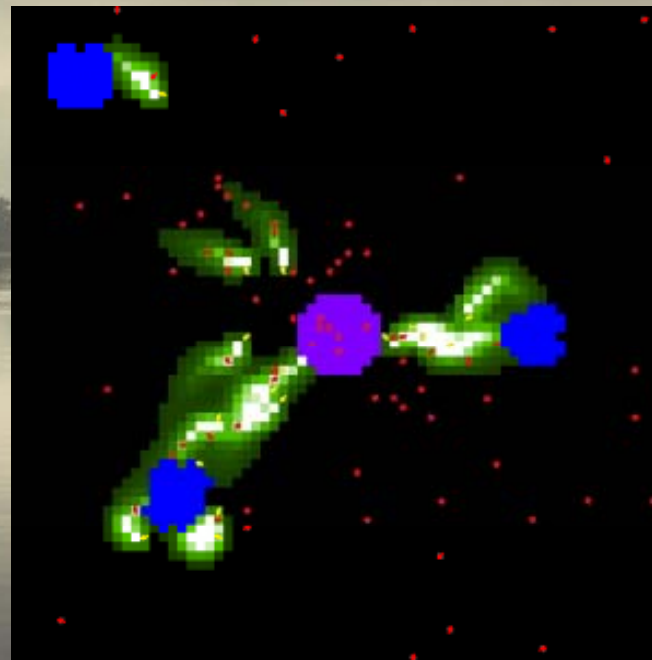
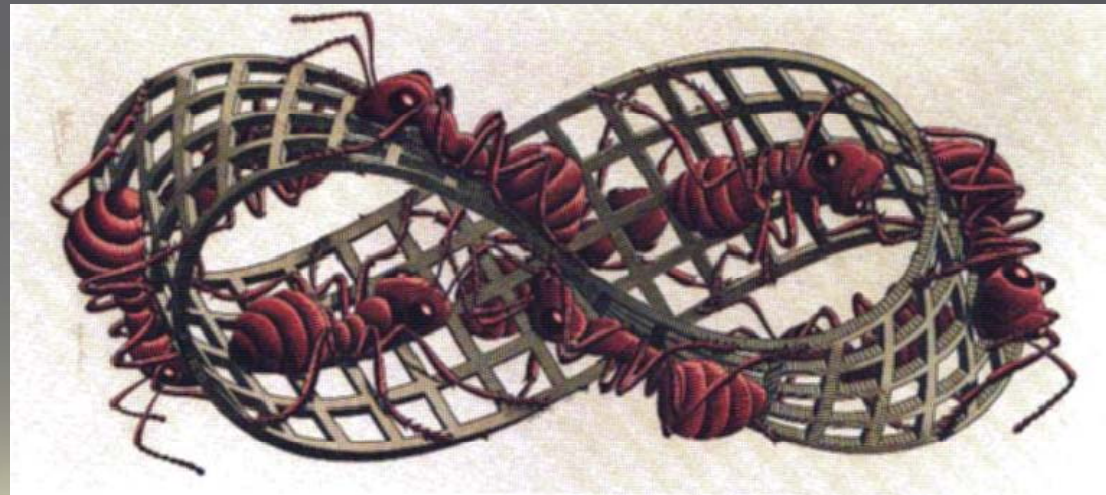
to diffuse-demon
diffuse pheromone
end

to evaporate-demon
set-pheromone pheromone * 0.95
end

to update-colors-demon
ifelse nest?
  [set-patchcolor purple]
  [ifelse food > 0
    [set-patchcolor blue]
    [scale-patchcolor green pheromone 0 2]]
end

to add-pheromone-drop
set-pheromone pheromone
                + ask turtle-here [drop-size]
end
```

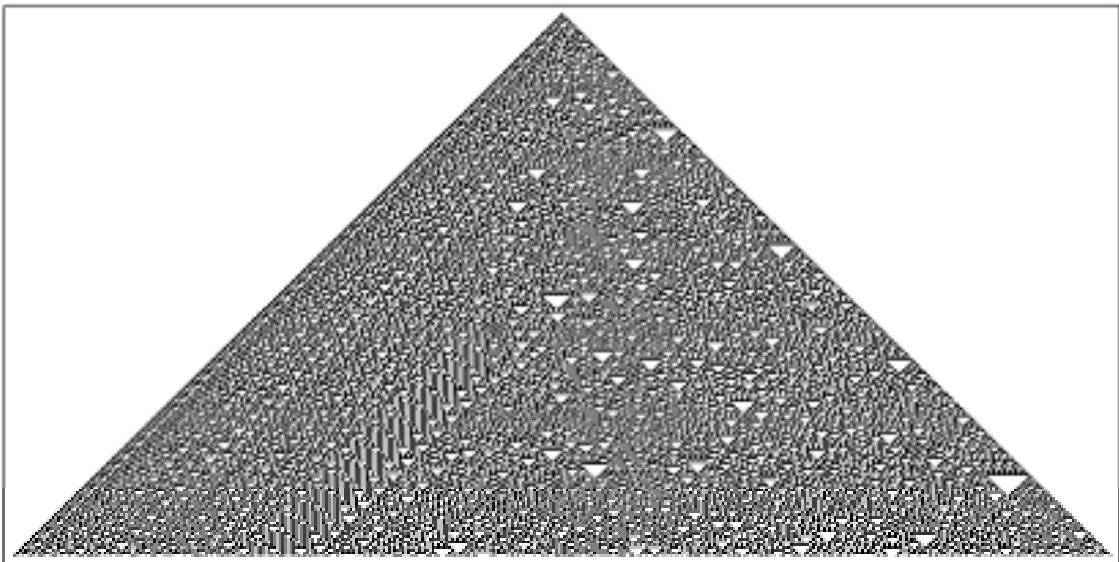
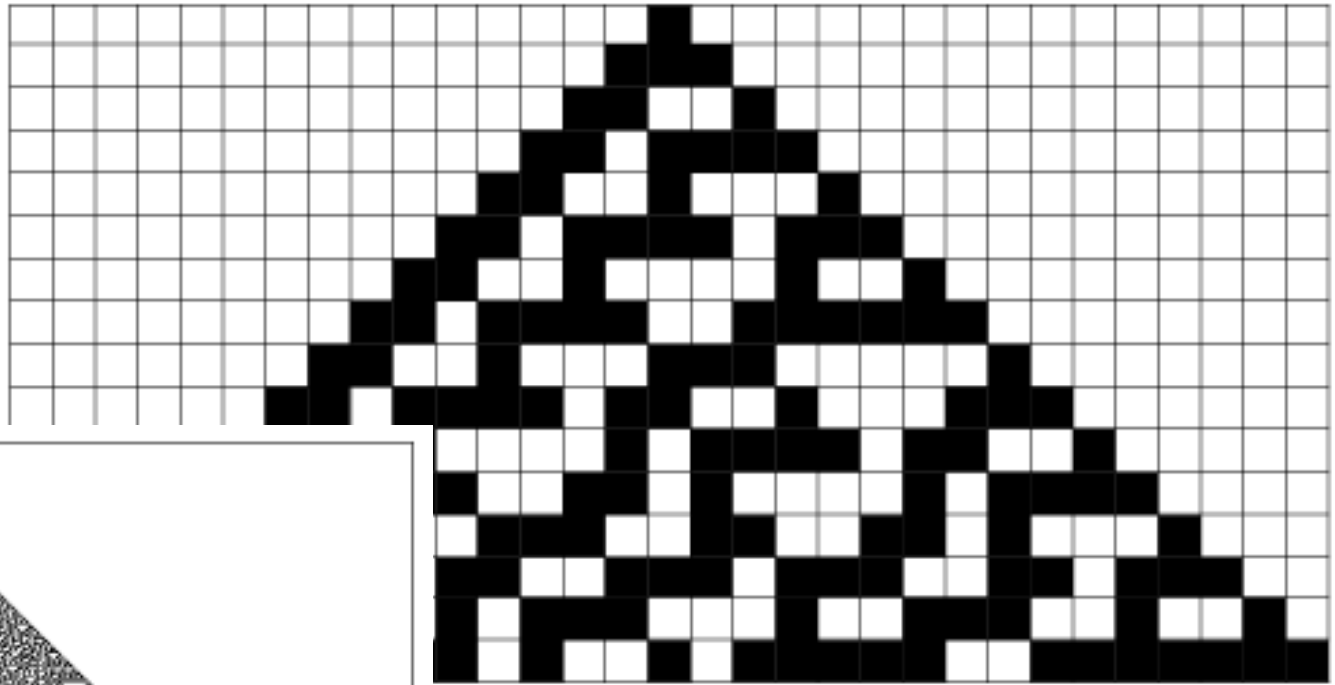
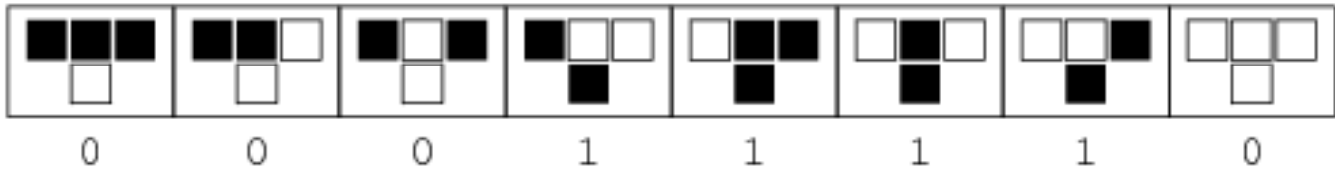
## Kraften i små enheter med enkle regler



Mitchel Resnick  
(1997): *Turtles, termites and traffic jams: Explorations in massively parallel microworlds*, MIT Press

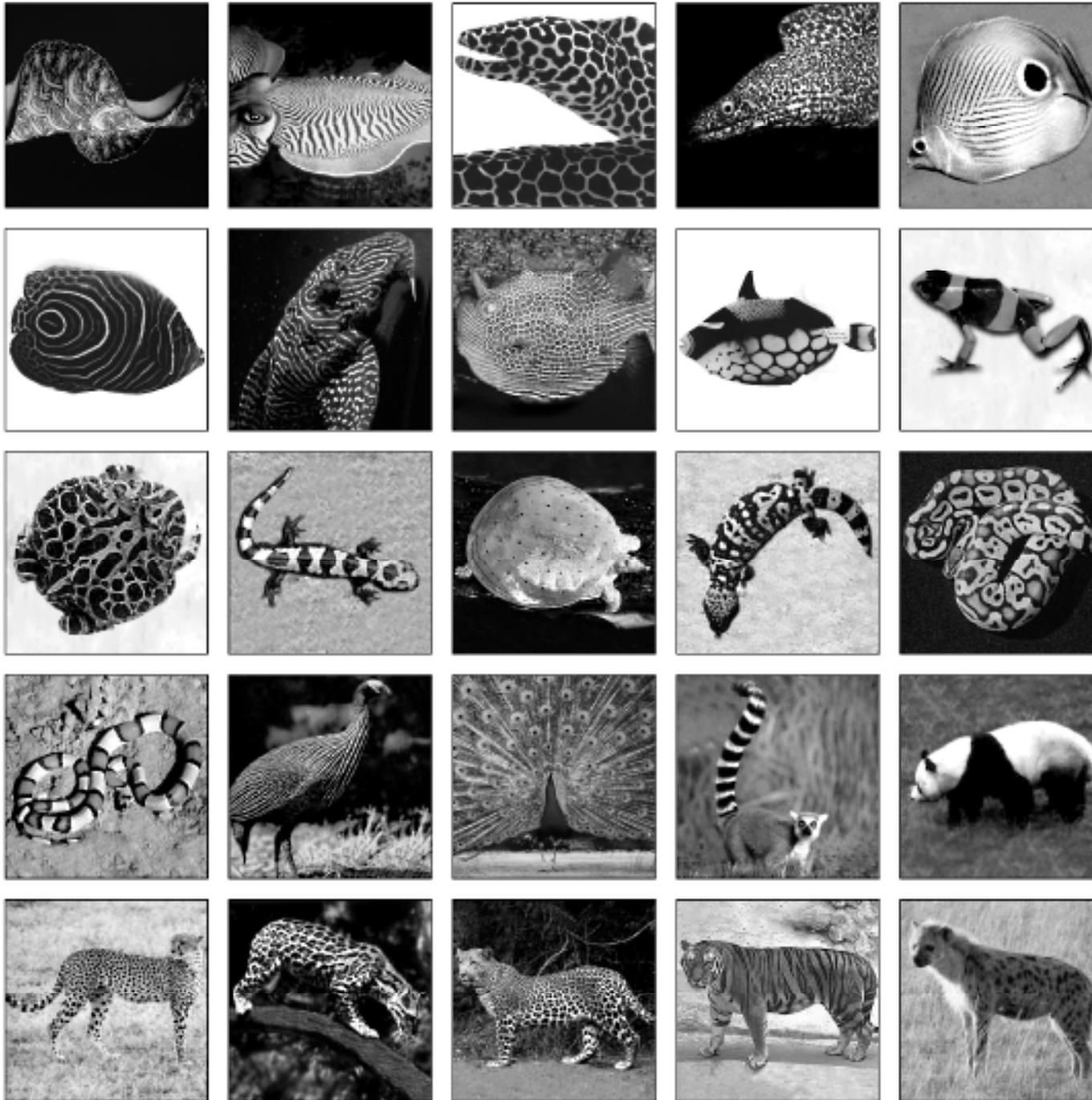


rule 30



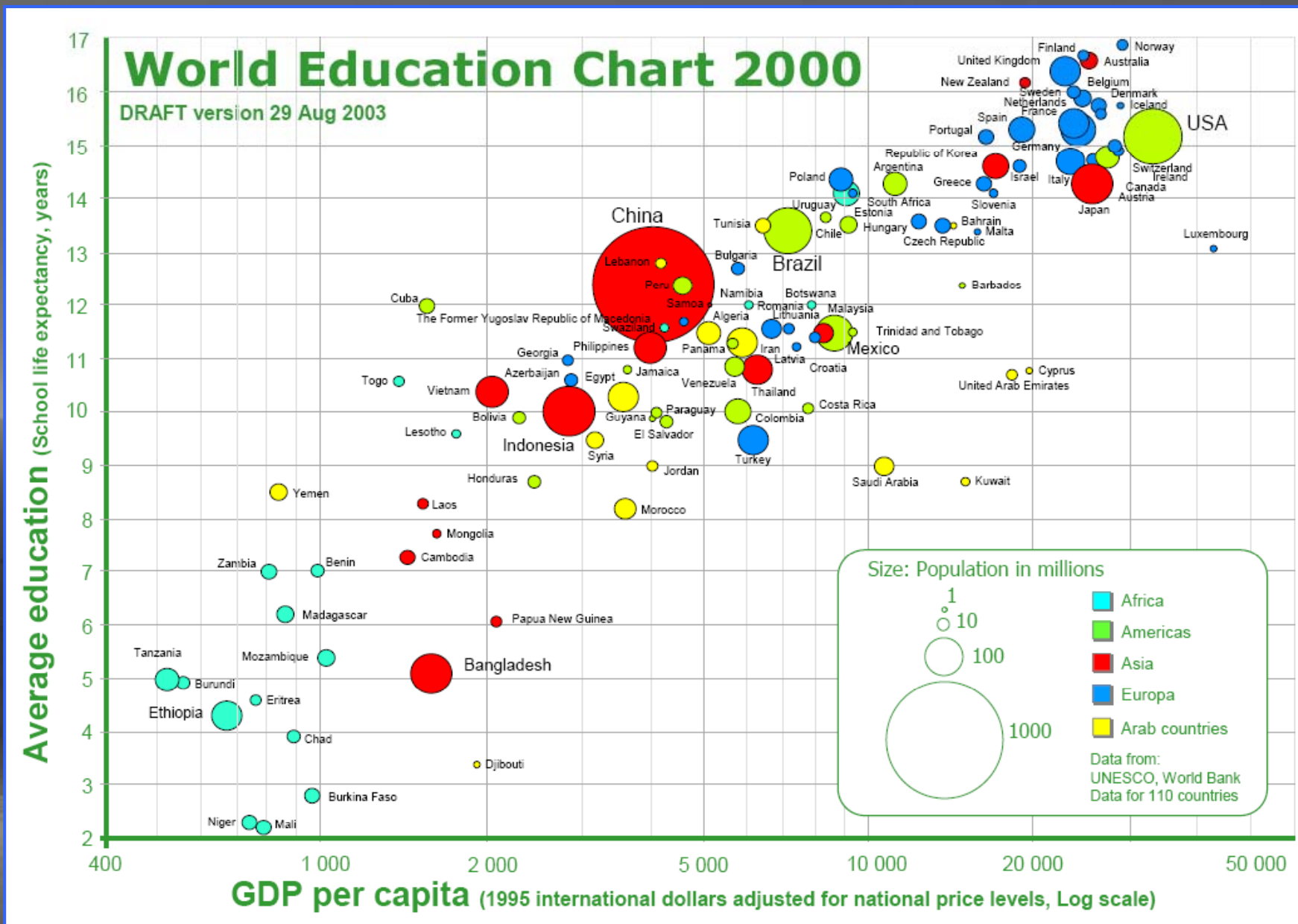
rule 30

Wolfram, S. (2002).  
*A New Kind of  
Science*, Wolfram  
Media.



Wolfram, S. (2002).  
*A New Kind of  
 Science*, Wolfram  
 Media.

...hva om vi kunne diskutere fakta i stedet for følelser?



# Future evolution: Protocols, curation and seeds gives - semantics!

A screenshot of the WolframAlpha search engine interface. The search bar contains the text "budget surplus norway". Below the search bar, the input interpretation is shown as "Norway government surplus". The result is "\$44.8 billion per year (US dollars per year) (world rank: 3<sup>rd</sup>) (2005 estimate)". Below the result, there is a section for "Local currency conversion" showing "277.4 billionkr per year (Norwegian kroner per year) (at current quoted rate)". At the bottom, it says "Computed by: Wolfram Mathematica" and "Download as: PDF | Live".

Andersen, E. (2010) Edging towards the semantic web: Protocols, curation, and seeds, *ACM Ubiquity*

An advertisement for the Mazda MX-5 Miata. It features a red convertible car driving on a road. The text says "Put Pontiac to the Test - Drive the All-New MX-5 Miata Today!". Below the car, there is a section titled "Sign up today to receive your Exclusive Mazda Test Drive Invitation!". This section includes a "DARE TO COMPARE" section with a list of features: "Available MX-5 Miata features not offered on the Solstice: Dynamic Stability Control, Xenon HID headlights, Advanced Keyless Entry &amp; Start System, 6-speed manual transmission." and "Mazda Drivers Assurance Plan for greater peace of mind: 48 months/50,000 miles, 'bumper-to-bumper' warranty". There is also a form to sign up for the test drive invitation, with fields for "First Name", "Last Name", and "E-Mail Address".



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[www.tversover.com](http://www.tversover.com)  
[www.appliedabstractions.com](http://www.appliedabstractions.com)