Every intelligent ghost must contain a machine: an information-processing machine.

Jane Austen’s concept of information
(Not Claude Shannon’s)

Aaron Sloman
School of Computer Science, University of Birmingham.

Installed: 26 Apr 2013
Last updated: 30 Apr 2013; 16 Dec 2013; 27 Dec 2013; 1 Jun 2014
This file is
http://www.cs.bham.ac.uk/research/projects/cogaff/misc/austen-info.html
Also available as PDF:
It is part of the Meta-Morphogenesis project:
http://www.cs.bham.ac.uk/research/projects/cogaff/misc/meta-morphogenesis.html

A partial index of discussion notes on this and many other topics is in
http://www.cs.bham.ac.uk/research/projects/cogaff/misc/AREADME.html

Extracts From Jane Austen’s Pride and Prejudice
With thanks to Project Gutenberg:
http://www.gutenberg.org/files/1342/1342-h/1342-h.htm

Jane Austen knew a lot about human information processing as these snippets from Pride and Prejudice (published in 1813 -- 200 years ago) show:

She was a woman of mean understanding, little information, and uncertain temper.

Catherine and Lydia had information for them of a different sort.

When this information was given, and they had all taken their seats, Mr. Collins was at leisure to look around him and admire,...

You could not have met with a person more capable of giving you certain information on that head than myself, for I have been connected with his family in a particular manner from my infancy.

This information made Elizabeth smile, as she thought of poor Miss Bingley.

This information, however, startled Mrs. Bennet ...
She then read the first sentence aloud, which comprised the information of their having just resolved to follow their brother to town directly.

She resolved to give her the information herself, and therefore charged Mr. Collins, when he returned to Longbourn to dinner, to drop no hint of what had passed before any of the family.

...and though he begged leave to be positive as to the truth of his information, he listened to all their impertinence with the most forbearing courtesy.

Mrs. Gardiner about this time reminded Elizabeth of her promise concerning that gentleman, and required information; and Elizabeth had such to send as might rather give contentment to her aunt than to herself.

Elizabeth loved absurdities, but she had known Sir William’s too long. He could tell her nothing new of the wonders of his presentation and knighthood; and his civilities were worn out, like his information.

I was first made acquainted, by Sir William Lucas’s accidental information, that Bingley’s attentions to your sister had given rise to a general expectation of their marriage.

As to his real character, had information been in her power, she had never felt a wish of inquiring.

... and at last she was referred for the truth of every particular to Colonel Fitzwilliam himself—from whom she had previously received the information of his near concern in all his cousin’s affairs,

When he was gone, they were certain at least of receiving constant information of what was going on,

Mr. Bennet had been to Epsom and Clapham, before his arrival, but without gaining any satisfactory information....

Elizabeth was at no loss to understand from whence this deference to her authority proceeded; but it was not in her power to give any information of so satisfactory a nature as the compliment deserved.

Upon this information, they instantly passed through the hall once more...

She began now to comprehend that he was exactly the man who, in disposition and talents, would most suit her. His understanding and temper, though unlike her own, would have answered all her wishes. It was an union that must have been to the advantage of both; by her ease and liveliness, his mind might have been softened, his manners improved; and from his judgement, information, and knowledge of the world, she must have received benefit of greater importance.

And will you give yourself the trouble of carrying similar assurances to his creditors in Meryton, of whom I shall subjoin a list according to his information?
But to live in ignorance on such a point was impossible; or at least it was impossible not to try for **information**.

but to her own more extensive **information**, he was the person to whom the whole family were indebted

Darcy was delighted with their engagement; his friend had given him the earliest **information** of it.

"Did you speak from your own observation," said she, "when you told him that my sister loved him, or merely from my **information** last spring?"

Bingley looked at her so expressively, and shook hands with such warmth, as left no doubt of his good **information**.

The joy which Miss Darcy expressed on receiving similar **information**, was as sincere as her brother’s in sending it.

---

**Exercises for the reader:**

What did Jane Austen know about information and the processes in which it can play a role?

What sorts of information-processing machinery can account for the phenomena she was interested in?

Do the examples show that she understood the importance of both control information and factual information? What is the difference?

How can information make something happen?

---

**Added: 27 Dec 2013**

Samuel Johnson (1709--1784) used this concept of information even earlier:

"We know a subject ourselves, or we know where we can find information on it"
quoted in Boswell’s *Life of Johnson*, 1791.

**Added: 1 Jun 2014**

More recently, James Gibson, in his 1979 book *The Ecological Approach to Visual Perception* emphasises that the information about the environment acquired by organisms through perception and action is not information in Shannon’s sense.

"Shannon’s concept of information applies to telephone hookups and broadcasting in elegant ways, but not, I think, to the first hand perception of being-in-the-world, to what the baby gets when first it opens its eyes. The information for perception, unhappily, cannot be defined and measured as Claude Shannon’s information can be."

For an extended discussion of the question
What’s information, for an organism or intelligent machine?
How can a machine or organism mean?,

See http://www.cs.bham.ac.uk/research/projects/cogaff/09.html#905
In Information and Computation, Eds. Gordana Dodig-Crnkovic and Mark Burgin,

Maintained by Aaron Sloman
School of Computer Science
The University of Birmingham