Reading Between (the Party) Lines

by

Sophie Beiying Chou

Submitted to the MIT Media Lab,
School of Architecture and Planning
in partial fulfillment of the requirements for the degree of

MS in Media Arts and Sciences

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WHO IS THE CHAIR(WO)MAN?
Chairman, Department Committee on Graduate Theses

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Abstract

Lorem ipsum dolor sit amet, no nibh deleniti pri, docendi omnesque no cum, sed rationibus consetetur ne. Nam mentitum maluisset te, est eleifend intellegebat ex. Stet volutpat deseruisse pro an, at causae alienum assueverit vel. Vis timeam atomorum cu, solet epicurei temporibus ut ius. Pertinax consetetur sea te. Ne quas harum denique ius. Et sit vocibus sententiae definiebas, ei usu minim abhorreant. Nam cu errem equidem, omnesque offendit ea duo. Duo an dicant definitiones. Tation graece melius cum ut, ea dicta vulputate reprehendunt vix, eu quis fuisset expetendis mea. Has blandit praesent reprehendunt ei. Animal iuvaret has ea, vis quodsi sanctus an. Duo albucius hendrerit definitionem at, vide malorum vel an. No sit debet blandit, mentitum temporibus cu sea. Id vitae aperiam vis, virtute copiosae accusata no ius. Invenire dignissim at cum, an adhuc vivendo principes has. Ut mei mutat voluptua suavitate, aliquid equidem has et. Cum eu erant putant, ne facete timeam euismod sed, usu ei erroribus hendrerit. Est id vero dictas legendos. Et ullum iriure mel, ei eum graeci interpretaris, pro atqui oblique id. Enim mundi liberavisse mel ei, pri et quodsi eleifend. Habeo molestie quo et, mundi primis accumsan eu vim, pro ei impetus prodesset efficiantur.

Thesis Supervisor: Deb Roy
Title: Associate Professor

The following people served as readers for this thesis:

Sepandar Kamvar . . . . . .
Associate Professor of Media Arts and Sciences
MIT Media Lab

Iyad Rahwan . . . . . .
Associate Professor of Media Arts and Sciences
MIT Media Lab

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Thank you !!

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Chapter 1

Introduction

Most Americans say that they want to read news that's unbiased. A survey from Pew Research in 2012 showed that more than two-thirds (68%) of readers want to read political articles with a neutral stance, compared to just a little less than a quarter (23%) of those who want to read those stories that share their point of view.1 But what exactly does that mean?

To begin with, whether or not we perceive news as biased is biased in itself. Conservative readers tend to view media as more biased than both Democrats and Independents (49% to 32% and 35%, respectively)[**?**].

The Hostile Media Effect, first studied by Vallone, Ross, and Lepper in 1985, gives one possible explanation for discrepancies: it describes a phenomenon where people with strong stances on an issue tend to perceive media covered as biased against their opinions, even on the same article.2

Clearly, finding bias in news depends on who the reader is as much as what they are reading.

In my thesis, I seek to examine the effects of context versus content in perceptions of media bias. In particular, when the context of a story is removed, how do linguistic features, in particular reading level and vocabulary, in the content affect the reader? Although studies have been conducted to both examine the psychological effect of wording on believability (see "Seductive Allure") and the impact of media brands and bias (see Baum, 2008), I seek to combine and contrast the two.

To do so, I will perform an A/B study for a broad range of readers to read and annotate political news stories (collected daily and sorted using a machine learning classifier). Each story is determined to be primarily about one political candidate and one topic computationally. In the control group, readers are given the full text of the article with no additional content. In the experimental group, readers are given a link to the original article complete with the byline, publication, and images. Stories are classified as either "high reading level," "average reading level," or "low reading level" by the Flesch-Kincaid test.

For each reader, I will collect their demographic information, and self-reported political stances. I will then analyze the effects of reading level versus media brand in the reader's perception of the article.

I want to measure just how strong the effect of the media brand and the reader's beliefs are.

Chapter 2

Experimental Setup

2.1 Data Collection

2.1.1 The Electome

2.1.2 Story Collection

2.1.3 Article Classification

2.2 Survey Design

2.2.1 Crowdflower

2.2.2 Demographic Collection

2.2.3 Political Affiliation

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Chapter 3

Reading Level

3.1 Language and Politics

3.2 The Seductive Allure [... of Simple] Language

3.3 Flesch-Kincaid Readability Tests

The idea of micro-optimization is motivated by the recent trends in computer architecture towards low-level parallelism and small, pipelineable instruction sets [**?**, **?**]. By getting rid of more complex instructions and concentrating on optimizing frequently used instructions, substantial increases in performance were realized.

Another important motivation was the trend towards placing more of the burden of performance on the compiler. Many of the new architectures depend on an intelligent, optimizing compiler in order to realize anywhere near their peak performance [**?**, **?**, **?**]. In these cases, the compiler not only is responsible for faithfully generating native code to match the source language, but also must be aware of instruction latencies, delayed branches, pipeline stages, and a multitude of other factors in order to generate fast code [**?**].

Taking these ideas one step further, it seems that the floating point operations that are normally single, large instructions can be further broken down into smaller, sim-

pler, faster instructions, with more control in the compiler and less in the hardware. This is the idea behind a micro-optimizing FPU; break the floating point instructions down into their basic components and use a small, fast implementation, with a large part of the burden of hardware allocation and optimization shifted towards compile-time.

Along with the hardware speedups possible by using a μFPU, there are also optimizations that the compiler can perform on the code that is generated. In a normal sequence of floating point operations, there are many hidden redundancies that can be eliminated by allowing the compiler to control the floating point operations down to their lowest level. These optimizations are described in detail in section **??**.

3.3.1 Presurvey Analysis

3.3.2 Comparisons to other Reading Level Tests

When more than two multiplications are performed in a row, the intermediate normalization of the results between multiplications can be eliminated. This is because with each multiplication, the mantissa can become denormalized by at most one bit. If there are guard bits on the mantissas to prevent bits from "falling off" the end during multiplications, the normalization can be postponed until after a sequence of several multiplies[1].

[1]Using unnormalized numbers for math is not a new idea; a good example of it is the Control Data CDC 6600, designed by Seymour Cray. [**?**] The CDC 6600 had all of its instructions performing unnormalized arithmetic, with a separate `NORMALIZE` instruction.

Chapter 4

Study

We ran this over n days blah blah

4.1 Demographics of Readers

4.2 Overall Bias Reportings

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Chapter 5

Analysis

5.1 Effects of Media Brands

5.2 Effects of Reading Level

5.3 Other Linguistic Ques

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Appendix A

Tables

Table A.1: Armadillos

Armadillos	are
our	friends

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Appendix B

Figures

Figure B-1: Armadillo slaying lawyer.

Figure B-2: Armadillo eradicating national debt.

Bibliography