



Focus and Flow in Speech UIs

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Focus and flow



<https://www.youtube.com/watch?v=wGocXVPiJ20>

<https://www.microsoft.com/en-us/news/features/2010/oct10/10-11toddpetersqa.aspx>

Fit human needs



<http://news.sciencemag.org/sciencenow/2008/10/23-02.html>

In complex environments



**There's no end
to what people can say.**

And there's all kinds of talk we do...

Between friends



Task-oriented

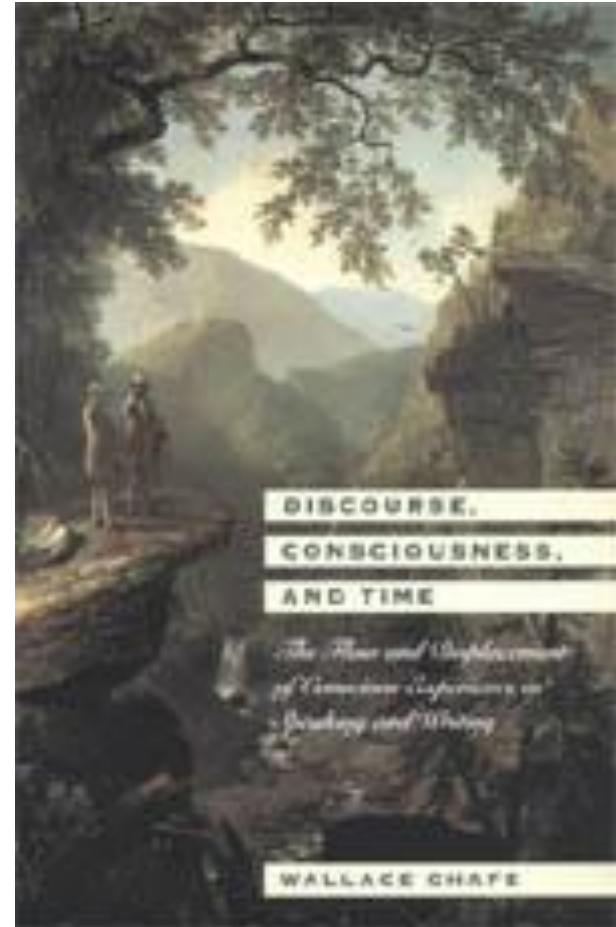


With a computer



Focus and flow

- Present ideas and findings from Wallace Chafe's *Discourse, Consciousness, and Time; The Flow and Displacement of Conscious Experience in Speaking and Writing* (1994).
- Discuss how they relate to design

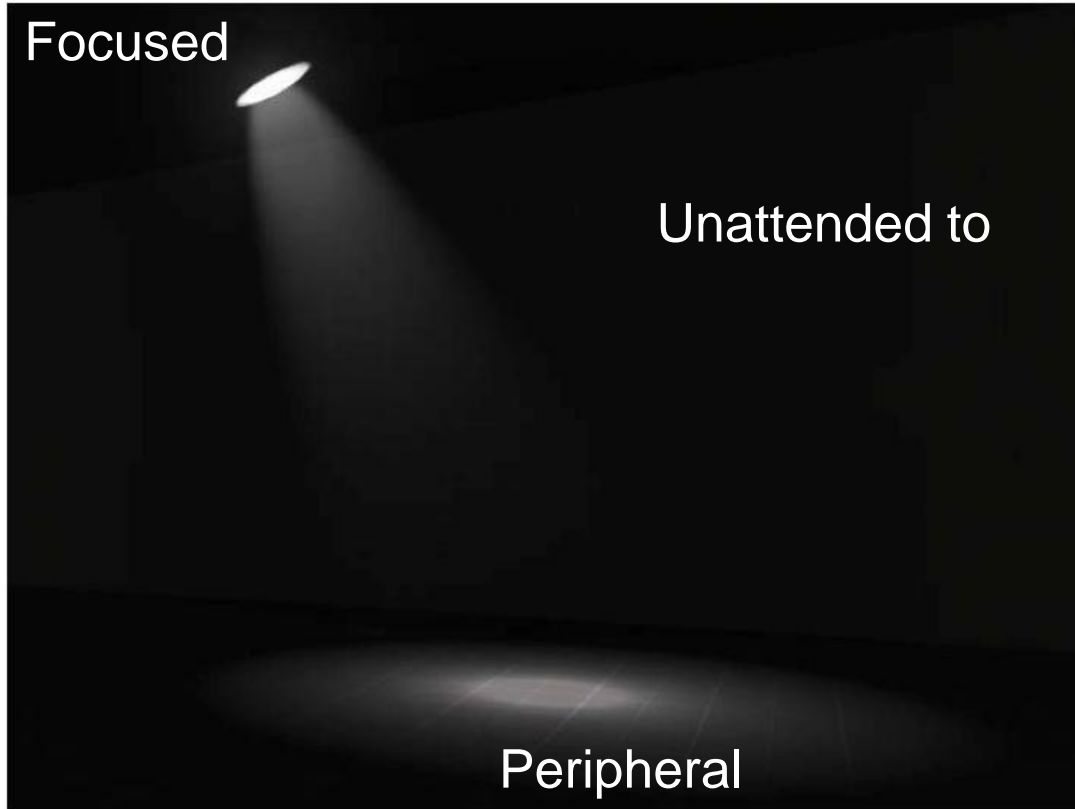


Focus and flow

Take a quick look at:

- Consciousness
- Activation states
- Speakers and listeners
- Intonation units
 - Types
 - Sizes
- The one new idea constraint

Consciousness can be...

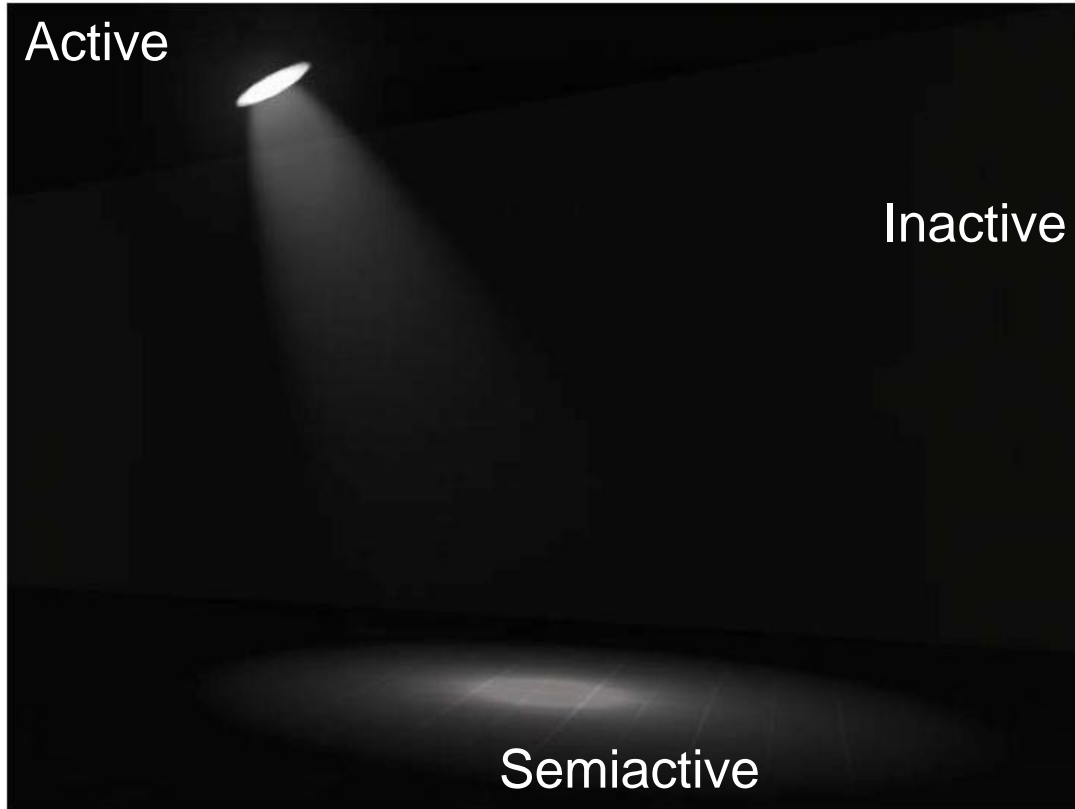


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Consciousness can be

- Focused
 - Only a limited amount of information can be focused on at one time
- Peripheral
 - This is the context that the focus is in
 - It gives clues to where the focus will go next
- Unattended to
 - This is the huge store of information not attended to at the moment

Thought-language continuum



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And ideas in thought-language lie on a continuum with (at least) three states of activation

- Active
- Semiactive
- Inactive

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Speakers and listeners

- Speakers keep in mind their own activation states
- They also try to bring about parallel activation states in the minds of their listeners

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Intonation units

- Segmentation of spoken language based on prosodic cues, including
 - Pauses or breaks
 - Accelerating then decelerating speech
 - Changes in pitch
 - Final pitch contours
 - Changes in voice quality

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Chafe's hypothesis

- When information is active in the speaker's mind, it is expressed in an intonation unit.
- The speaker intends for information in the intonation unit to become active in the listener's mind as well.

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Three types of intonation units

- Fragmentary
- Substantive
- Regulatory

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Size of intonation units

- Fragmentary
 - Can be ignored
- Substantive
 - Mean length of **4.84 words per unit**
 - Last between **1-2 seconds**
- Regulatory
 - Mean length of 1.36 words per unit

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Types of intonation units, an exercise

Three speakers: A, B, and C

- 1 A ... Well,
- 2 A isn't she healthy?
- 3 B .. Mhm,
- 4 A ... I mean she
- 5 A I know she has
- 6 C More or less.
- 7 A .. She has [something with her] gallbladder,
- 8 B [gallbladder and,]
- 9 B ... heart trouble and,
- 10 B [back problems.]
- 11 A [She has heart] trouble,
- 12 C ... Her she has an enlarged heart.

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The one new idea constraint

- An intonation unit can contain no more than one new idea.
- That is, if there is a new idea, only one can be expressed.
- This is most applicable to substantive intonation units.

Kinds of talk revisited

Between friends



Task-oriented



With a computer



Focus and flow outside speech

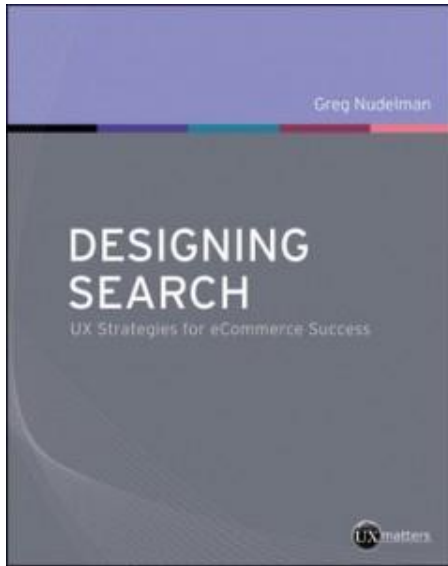
Peter Stahl (@pstahl)



<https://www.box.com/s/ms8ssh4nc3zl6mx0n38w>

Focus and flow outside speech

Greg Nudelman (@designcaffeine) <http://www.designcaffeine.com>



<http://www.androiddesignbook.com>



<http://boxesandarrows.com/storyboarding-ipad-transitions>



Focus and flow outside speech

Luke Wroblewski (@lukew) <http://www.lukew.com>

The screenshot shows an eBay listing for a Gabor Szabo Jazz Raga LP. The listing includes a cover image of the album, a starting bid of US \$8.00, and a 'Place bid' button. The seller is identified as 'Top-rated seller funkyou! (24625)' with a 99.9% positive feedback rating. Shipping is \$4.00 and estimated delivery is between Saturday, July 2 and Monday, July 11. The listing also features 'eBay Buyer Protection' and 'Other item info' such as item number 300472103028 and location SAINT LOUIS, United States.

<https://bagcheck.com/blog/61-input-becomes-output-in-a-new-way-to-bag>

The screenshot shows the 'Create your listing' form on eBay. It includes a title input field, a category selection dropdown (Music > Records), and a 'Place bid' button. The form is divided into sections: '1 Create a descriptive title for your item', '2 Select the category that best describes your item', and '3 Bring your item to life with pictures'. The '3' section includes a 'Gallery Plus' checkbox and a 'Speed' dropdown menu.

Focus and flow outside speech

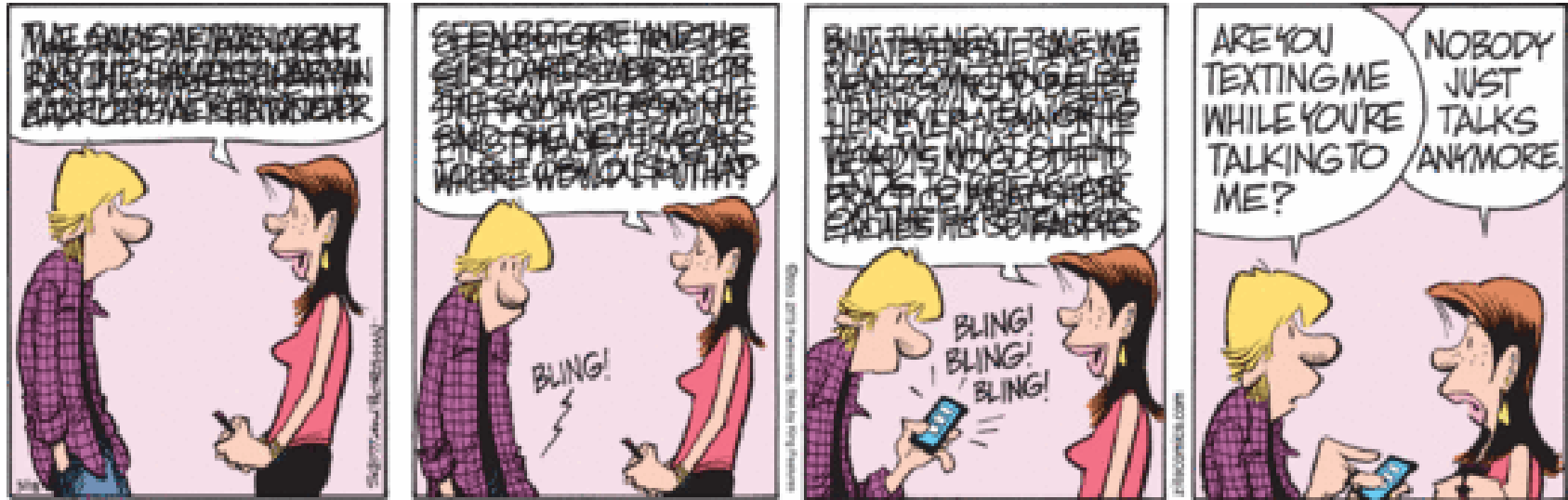
Luke Wroblewski

- ...people would get a blank version of a listing page and use that to fill in information about what they wanted to sell....No matter how many times I saw this idea tried, however, it never worked as well as a standard input form. As the image below illustrates, a sequential form walks people step by step through the information they need to provide in order to create a listing on eBay.

<https://bagcheck.com/blog/61-input-becomes-output-in-a-new-way-to-bag>

Nobody just talks anymore

Multimodality, environment, and context



Zit's cartoon found on <http://languagelog.ldc.upenn.edu/nll/?p=4522>



Thank you

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