From: NL-KR Moderator Brad Miller (nl-kr-request@CS.ROCHESTER.EDU)
Subject: NL-KR Digest Volume 4 No. 23
Newsgroups: comp.ai.nlang-know-rep
Date: 1988-03-10 19:26:00 PST

NL-KR Digest (3/10/88 22:24:55) Volume 4 Number 23

Today's Topics:
on-line dictionary
Phonetics Font
References Wanted
In Search of a Search Engine
perfect language

From CSLI Calendar, February 25, 3:19
BBN Lang. & Cognition Seminar
SUNY Buffalo Semiotics Colloquia
BBN AI Seminar -- Walter Hamscher
UB Graduate Conference on Computer Science
Buffalo Logic Collquium

Submissions: NL-KR@CS.ROCHESTER.EDU
Requests, policy: NL-KR-REQUEST@CS.ROCHESTER.EDU

Date: Wed, 2 Mar 88 18:19 EST
From: Parvin <parvin%ganelon.usc.edu@oberon.usc.edu>
Subject: on-line dictionary

I am looking for an online dictionary for unix or MSDOS enviroment.
If you have any information please replay to

parvin parvin%ganelon.usc.edu@oberon.usc.edu

Date: Thu, 3 Mar 88 14:44 EST
From: GA3606%SIUCVMB.BITNET@CUNYVM.CUNY.EDU
Subject: Phonetics Font

Does anyone know of a downloadable phonetics font that will work
on either an Epson LQ 800 or an HP LaserJet II? I *really* don't
want to design my own (I'd rather spend my time using it). I am
willing to spend some money, but preferably not the >$180 that I
believe Fancy Font costs. I use Nota Bene, which permits relatively
easy font switching.
Thanks.

Geoff Nathan,
Linguistics, Southern Illinois University
3 March 1988

Date: Sat, 5 Mar 88 11:05 EST
From: LEWIS@cs.umass.edu
Subject: References Wanted

I would be interested in hearing about references on the structure, parsing, interpretation, and knowledge representation of compound nominals and adjectivally modified nominals.

David D. Lewis CSNET: lewis@cs.umass.edu
COINS Dept. BITNET: lewis@umass
University of Massachusetts, Amherst
Amherst, MA 01003
Motto: "Response in kind if requested, net post if sufficient interest."

Date: Sun, 6 Mar 88 01:24 EST
From: Robin C. Cover <ZRCC1001@SMUVM1>
Subject: In Search of a Search Engine

I'm looking for a search engine which probably does not exist, but I would like advice from those more knowledgable about text retrieval systems. It is a text retrieval system optimized for literary-critical and linguistic study. The major requirements for the search engine are as follows:

(1) Literary texts should be "understood" by the system in terms of the individual document structure, as indicated by markup elements. The user should be able to specify within a search argument that proximity values, positional operators, comparative operators and logical operators govern the search argument and the textual units to-be-searched IN ACCORDANCE WITH THE HIERARCHICAL STRUCTURE OF THE DOCUMENT. That is, if a document is composed of books, chapters, pericopes, verses and words, then expressions within the search argument must be able to refer to these particular textual units. If another document (or the *same* document, viewed under a different hierarchical structure) contains chapters, paragraphs, sub-paragraphs, (strophes), sentences and words, then expressions in the search argument should be framed in terms of these textual units. To borrow a definition of "text" from the Brown-Brandeis-Harvard CHUG group: the text retrieval system must be capable of viewing each of its documents or texts as an "ordered hierarchy of content objects (OHCO)."

(2) The database structure must be capable of supporting annotations (or assigned attributes) at the word level, and ideally, at any higher textual level appropriate to the given document. Most record-based retrieval systems cannot accommodate the word-level annotations that textual scholars or linguists would like to assign to "words." More commonly, if such databases can be modified to accommodate annotations at the word level, the record-field structure is thereby contorted in ways that introduce new constraints on searching (inability to span record boundaries, for example). Preferably, even the definition of "word" ought not to be hard-coded into the system. Hebrew, for instance, contains "words" (graphic units bounded by spaces) which represent three or four distinct lemmas. Minimally, the database must support annotations at the word level (e.g., to account for the assignment of lemma, gloss, morphological parse, syntactic function, etc) and these annotations must be accessible to the search engine/argument. Though not absolutely required, it is desirable that attributes could be assigned to textual units above "word," and such attributes should be open to specification in the search argument. Linguists studying discourse, for example, might wish to assign attributes/annotations at the sentence or paragraph level.

(3) The search engine should support the full range of logical operands (Boolean AND, OR, NOT, XOR), user-definable proximity values (within the SAME, or within "n" textual units), user-definable positional operators (precedence relations governing expressions or terms within the search argument) and comparative operators (for numerical values). The search argument should permit nesting of expressions by parentheses within the larger Boolean search argument. Full regular-expression pattern

matching (grep) should be supported, as well as macro (library/thesaurus) facilities for designating textual corpora, discontinuous ranges or text-spans within documents, synonym groups, etc. Other standard features of powerful text retrieval systems are assumed (set operations on indices; session histories; statistical packages; etc).

Most commercial search engines I have evaluated support a subset of the features in (3), but do very poorly in support of (1) and (2). The text retrieval systems which claim to be "full text" systems actually have fairly crude definitions of "text," and attempt to press textual data into rigid record-field formats that do not recognize hierarchical document structures, or are not sufficiently flexible to account for a wide range of document types. Three commercial products which attempt to support (1) are WORDCRUNCHER, Fulcrum Technology's FUL-TEXT and BRS-SEARCH. I know of no systems which intrinsically support requirement (2), though LBASE perhaps deserves a closer look, and a few other OEM products promise this kind of flexibility. It may be possible to press FUL-TEXT or BRS-SEARCH into service since both have some facility for language definition. Another promising product is the PAT program being developed by the University of Totonto in connection with the NOED (New Oxford English Dictionary). But I may have overlooked other commercial or academic products which are better suited for textual study, or which could be enhanced/modified in some fashion other than a bubble-gum hack. It is not necessary that a candidate possess all of the above features, but that the basic design be compatible with extending the system to support these functional specs, and that the developers be open to program enhancements. Ideally, such a system would work with CD-ROM, though this is not an absolute requirement. I would like good leads of any kind, but particularly products that could be leased/licensed under an OEM agreement...for microcomputers, I should add.

Thanks in advance to anyone who can suggest names of commercial packages or academic software under development which meet the major requirements outlined above, or which could be *gently* bent to do so.

Professor Robin C. Cover
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3909 Swiss Avenue
Dallas, TX 75204
(214) 296-1783

Date: Thu, 10 Mar 88 15:02 EST
From: Russell Perry <russell@puff.cs.wisc.edu>
Subject: perfect language

I am fascinated with language, though I have only taken one course in Linguistics and no foriegn languages. Could anybody point out any good books about language(s)?

And now my main reason for posting. People have tried to invent languages before, with varying degrees of success. This got me curious. What would a perfect language be like? I know this depends on definition of perfect. That's what I want to hear. Please post ideas on aspects of a "perfect" language, using examples from your favorite pet language or something you feel languages should feature, but don't.

For starts, I would suggest that the language have a phonetic alphabet. In my opinion, this is the only way to go, considering the ease of spelling and reading (unknown words) and this also gives a small, manageable amount of characters (no offense to the Chinese, but that system is too complex).

Please email book recommendations and post perfect language ideas. Note I am interested in the whole shebang, written and spoken language, so include ideas about stress, pitch, punctuation, the ability for the language to be

used for talk vs tech vs expression (poetry, song), etc, etc.
--
Russ Perry Jr 5970 Scott St Omro WI 54963 russell@puff.cs.wisc.edu
"Fill my brain with your so called standards--who says that I ain't right"
"Shpx vg nyy naq shpxvat ab ertergf" Metallica (Escape; Damage Inc) :-)

Date: Wed, 24 Feb 88 20:43 EST
From: Emma Pease <emma@russell.stanford.edu>
Subject: From CSLI Calendar, February 25, 3:19

[Extracted From CSLI Calendar]

Reading: "Babe Ruth Homered his Way into the Hearts of America"
by Ray Jackendoff, Brandeis University
Discussion led by Annie Zaenen
(zaenen.pa@xerox.com)
February 25

This paper is concerned with the mapping between syntactic structure and semantic/conceptual structure. When the one doesn't reflect the other in a direct way, one can either complicate the syntactic structure (e.g., by assuming a deep structure that would reflect the conceptual structure more directly) or one can complicate the correspondence rules. Jackendoff starts from his own specific assumptions about the conceptual structure (elaborated in his book "Semantics and Cognition" (MIT Press 1983) and his paper "The Status of Thematic Roles in Linguistic Theory" (LI,1987)) and discusses one case in which the syntax/semantics mapping is not direct; the one exemplified in sentences like `Babe Ruth homered his way into the hearts of America.' He concludes that a syntactic solution to the problem is not appealing but that one has either to claim that one has a kind of idiom or that the correspondence rules have to be complicated. The issue addressed arises of course in all theories trying to spell out the syntax-semantics mapping; the assumptions made here are different in their specifics from those that most of us would make but are stated in a notation that is rather close to an attribute value representation and they argue for a `surfacey' syntax, at least in this case, so I hope they are sufficiently close to inspire people to think about their own approaches to this and similar problems.

Implementing a BDI Agent
Robert C. Moore
(bmoore@ai.sri.com)
February 25

The BDI (Belief-Desire-Intention) model of rational agency is a familiar one around CSLI, having been the focus of the RATAG project for about three years. As part of the ICA (Intelligent, Communicating Agents) project, we are attempting to do a complete implementation of an agent based on the BDI model. As always, implementation forces us to confront issues that we had previously overlooked. This talk will focus on a number of those issues including:

a formal semantics for desire that can be used to motivate action;

extending the notion of dependency-directed belief revision ("truth maintenance") to include the dependency of intentions on desires and beliefs and the dependency of beliefs on intentions;

combining inference and planning by treating intentions as "assumable" propositions that one encounters in trying to infer that one's beliefs will be satisfied.

Intelligent Communicating Agents III: Communication

Phil Cohen
(pcohen@warbucks.ai.sri.com)
March 3

In this talk I will describe some of the kinds of communicative acts needed by autonomous agents. Specifically, I will sketch a formalism in which to describe informative, directive, and commissive acts that will be required to get cooperative behavior. The definitions of the actions will be varied as we allow various possibilities for agents' being insincere, uncooperative, etc. Finally, if there is time, I will explore what it takes for agents to act jointly, and how communication fits in.

Date: Mon, 29 Feb 88 08:41 EST
From: Dori Wells <DWELLS@G.BBN.COM>
Subject: BBN Lang. & Cognition Seminar

BBN Science Development Program
Language & Cognition Seminar Series

COGNITION AND METAPHOR

Professor Bipin Indurkhya
Computer Science Department
Boston University

BBN Laboratories Inc.
10 Moulton Street
Large Conference Room, 2nd Floor

10:30 a.m., Wednesday, March 9, 1988

Abstract: In past years a view of cognition has been emerging in which metaphors play a key role. However, a satisfactory explanation of the mechanisms underlying metaphors and how they aid cognition is far from complete.

In particular, earlier theories of metaphors have been unable to account for how metaphors can "create" new, and sometimes contradictory, perspectives on the target domain.

In this talk I will address some of the issues related to the role metaphors play in cognition. I will first lay an algebraic framework for cognition, and then in this context I will pose the problem of metaphor. Two mechanisms will be proposed to explain the workings of metaphors. One of these mechanisms gives rise to what we call "projective metaphors", and it is shown how projective metaphors can "create" new perspectives and new ontologies on the target domain. The talk will conclude with a brief discussion of some further implications of the theory on "Direct Reference vs. Descriptive Reference", "Is all knowledge metaphorical?", and "Induction and Analogies", among other things.

Date: Wed, 2 Mar 88 15:01 EST
From: William J. Rapaport <rapaport@cs.Buffalo.EDU>
Subject: SUNY Buffalo Semiotics Colloquia

SUNY Buffalo

GRADUATE GROUP IN SEMIOTICS
and

GRADUATE STUDENT ASSOCIATION SEMIOTICS CLUB

present the following events:

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NEIL HERTZ, Johns Hopkins University

"Some Words in George Eliot: Neutral, Nullity, Numb, Number"
Thursday, March 3, 3:00 p.m., 640 Clemens

"DeMan's Lurid Figures"
Friday, March 4, 1:00 p.m., 640 Clemens

Co-sponsored with the Program in Comparative Literature
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STEPHEN RUDY, Dept. of Slavics, New York University

"The Moscow/Tartu School of Semiotics"

Friday, March 11, 3:30 p.m., 684 Baldy

Refreshments will be served
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KAJA SILVERMAN, Simon Fraser University

"Make-Believe: Hollywood, World War II, and Male Subjectivity"

Screening of _The Best Years of Our Lives_ (dir. Billy Wilder)

Wednesday, March 16, 7:00 p.m., 410 Clemens
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FEMINISM AND MASS CULTURE CONFERENCE

Thursday, March 17, 12:30-5:00 p.m., 608 Clemens
Friday, March 18:
9:30 a.m.-noon, 102 Park
1:30-5:00 p.m., 108 O'Brien

Co-sponsored with the Graduate Group in Feminist Studies, the Department of English, and others.
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MICHEL GRIMAUD, Wellesley College

"Proper Naming:
Psychological and Semiotic Aspects of Reference and Address"

Friday, April 15, 3:30 p.m., 684 Baldy
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For further information, contact Paul Garvin, SUNY Buffalo Dept. of Linguistics, 685 Baldy, (716) 636-2177.

Date: Thu, 3 Mar 88 15:14 EST
From: Marc Vilain <MVILAIN@G.BBN.COM>
Subject: BBN AI Seminar -- Walter Hamscher

BBN Science Development Program
AI Seminar Series Lecture

REPRESENTATIONS FOR MODEL BASED TROUBLESHOOTING

Walter C. hamscher
MIT AI Lab
(hamscher@ht.ai.mit.edu)

BBN Labs

10 Moulton Street
2nd floor large conference room
10:30 am, Tuesday March 15

Model based troubleshooting is fundamentally about modeling. Its goal is to apply a general troubleshooting engine to a new domain by providing only a new domain model, so it is essential to know not only what relation the model should bear to the real physical device being diagnosed, but also what features the resulting model should include by virtue of its intended use in troubleshooting. Since every model embodies some abstractions, this is just another way of saying that it's essential to know the useful abstractions for the task at hand.

This talk presents a methodology for model based troubleshooting of board-scale digital circuits that emphasizes the importance of appropriate temporal abstractions for coping with behavioral complexity. The result is a remarkably coarse representation for digital circuit behavior that often yields as much diagnostic resolution as traditional circuit models, in spite of its simplicity. In the same spirit, the importance of appropriate representation of circuit organization is emphasized, and the result is a primary representation of the physical organization of the circuit, along with a more familiar representation of functional organization.

Date: Thu, 3 Mar 88 17:04 EST
From: William J. Rapaport <rapaport@cs.Buffalo.EDU>
Subject: UB Graduate Conference on Computer Science

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UNIVERSITY AT BUFFALO

DEPARTMENT OF
COMPUTER SCIENCE

SCHEDULE OF PRESENTATIONS

University at Buffalo Graduate-Conference
on Computer Science

8:00 Registration

8:30 Introduction

8:45 Kulbir Arora, SUNY at Buffalo
Dimensional Analysis: A Tool to Augment Qualitative Reasoning

9:15 Hoang Pham, SUNY at Buffalo
Reliability Analysis of Digital Data Systems

9:45 Brian Marsh, University of Rochester
Psyche: A NUMA Operating System Kernel

10:15 Break

10:30 Ted Pawlicki, SUNY at Buffalo
A Fast Neural Network System for Handwritten Digit Classification

11:00 Susan McRoy, University of Toronto
Race-Based Syntactic Attachment

11:30 Eric Neufeld, University ol Waterloo
On the Relation Between Defaults and Probabilities

12:00 Luncheon

1:30 Scott Lagona, SUNY at Buffalo
Generating Run-Time Code for a Forward-Chaining Rule Set

2:00 Jim DesRivieres, University of Toronto
The Flow of Information in Simple Machines

2:30 Bruce Spencer, University of Waterloo
Parallelism, Prolog and the ATMS

3:00 Break

3:15 Deepak Kumar, SUNY at Buffalo
Discussing, Using, and Recognizing Plans in SNePS

3:45 Elizabeth Hinkelman, University of Rochester
How to Do Things with Words, Computationally

4:15 Arun Jagota, SUNY at Buffalo
ATL - A Testing Language / Interpreter

4:45 Reception

Tuesday, March 15, 1988
8:00 - 5:00
Center for Tomorrow
Amherst Campus, SUNY at Buffalo
For further information, call (716) 636-2464
E-mail: ubg-ccs@cs.buffalo.edu

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Date: Mon, 7 Mar 88 12:35 EST
From: William J. Rapaport <rapaport@cs.Buffalo.EDU>
Subject: Buffalo Logic Collquium

STATE UNIVERSITY OF NEW YORK AT BUFFALO

BUFFALO LOGIC COLLOQUIUM

RANDALL R. DIPERT

Department of Philosophy
SUNY Fredonia

THE INADEQUACY OF THE TURING TEST AND ALTERNATIVES
AS CRITERIA OF MACHINE UNDERSTANDING:
Reflections on the Logic of the Confirmation of Mental States

In this paper, I address the question of how we would confirm a machine's, or any entity's, "understanding". I argue that knowledge of the internal properties of an entity--as opposed to "external" properties and relations, such as to a linguistic or social community, or to abstract entities such as propositions--may not be sufficient for the justified attribution of understanding. I also argue that our knowledge of the internal construction or of the origin of an artificial system may serve as defeating conditions in the analogical reasoning that otherwise supports the claim of a system's understanding. (That is, the logic of the confirmation of understanding is itself non-monotonic!) These issues are discussed within an analysis of the complex fabric of analogical reasoning in which, for example, the Turing Test and Searle's Chinese Room counterexample are merely examples of larger issues. No previous contact with the logic of analogy, artificial intelligence, or the philosophy of mind (other than having one) is assumed. [Shorter

summary: Will we (ever) be able justifiably to say that an artificial system has "understanding"? Probably not.]

Tuesday, March 15, 1988
4:00 P.M.
Fronczak 454, Amherst Campus

For further information, contact John Corcoran, (716) 636-2438.

End of NL-KR Digest
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