What can corpus analysis tell us about AV texts?

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A ‘language of audio description’?

QUESTIONS

- How is audio description shaped by the functions it performs?
- What kinds of information does it typically convey?

A ‘language of audio description’?

METHOD

1. Automatically generate lists of frequent words and keywords (words that are unusually frequent in the corpus)
2. Manually analyse concordances of these words
3. Classify common kinds of information

Characters and their body parts: *man, head, face, eyes, hand, hands, men, woman, hair, arms, arm, feet, girl, mouth, boy, crowd, shoulder, officer, people, lady, body, police, soldiers, father*

Actions: *looks, turns, takes, walks, goes, stands, steps, smiles, stares, puts, watches, opens, looking, runs, sitting, comes, picks, sees, holds, wearing, smile, nods, standing, leans, glances, gives, holding, watch, beat, grabs, leaves, falls, reaches, watching, drops, closes, lifts, throws, shakes, passes, run, follows, climbs, kiss, pushes, kisses, walk, lies, staring, carrying*

Objects and scenes: *door, room, car, window, table, water, bed, house, floor, gun, boat, street, road, ground, horse, phone, desk, hat, office, book, bag, stairs, chair, seat, sky, fire, jacket, bedroom, corridor*

saunters, hurries, stares, shoves, clambers, straightens, gazes, kneels, scrambles, leans, glares, nods, periscope, strolls, crouches, tosses, blinks, trots, frowns, hurls, clunk, grabs, pulls, llama, watches, smashes, unlocks, hauls, staggers, heaves, minion, stumbles, shakes, wipes, hesitates, pats, haired, lowers, pushes, wanders, crawls, grins, glances, flings, picks, flicks, slaps, hugs, smiles, sniffs, glides, scarecrow, sits, slams, rubs, pours, squeezes, diner, postman, spins, shuts, salutes, drags, rips, walks, climbs, closes, sips, strides, slumps, gallops, flashback, leaps, knocks, throws, fades, stirs, rushes, kisses, tugs, creeps, jumps, dives, shrugs, crashes, lifts, turns, licks, opens, silhouetted, elevator, pauses, swings, sighs, bounces, stops, dials, swims, bangs, presses, slips, removes

A ‘language of audio description’?

RESULTS

- Five common kinds of information about…
  - characters’ appearances
  - characters’ focus of attention
  - characters’ interpersonal interactions
  - changes of location of characters and objects
  - characters’ emotional states

A ‘language of audio description’?

SUMMARY

- A data-driven approach led us to a preliminary classification of some common kinds of information in audio description
- This is of interest for:
  - monitoring how AD guidelines are followed
  - determining whether there is a ‘language of audio description’

Describing thoughts and actions

QUESTION

- Where does audio description lie on the ‘thought-action’ continuum?

Describing thoughts and actions

METHOD

1. A close reading of a small sample of AD to observe different kinds of action description
2. Count occurrences of different kinds of action description

From *The English Patient*...

"Almasy steps between them and takes Katherine in his arms. Seeing them, Geoffrey sips his wine thoughtfully. On the dance floor. Almasy does not answer. He holds her stiffly in his arms, gazing directly at her finely sculpted features and pale blond hair. Disconcerted, Katherine meets his gaze, then glances away uncertainly. Without speaking they glide across the floor between the dancing couples circling beneath the crystal chandeliers"

Time to "release your inner geek"?

- We can use a 'regular expression' to find every mention of the word 'looks' followed by a word ending –ly. The regular expression we need is – `looks \w+ly`

- Some other regular expressions:

  `/cat|dog/` - matches cat or dog
  `/\b[A-Z]\w*\b/` - any capitalised word
  `/\b((go(es|ing)?)|went)/` – go, goes, going, went
  `/\b\w*ed\b/` - all words ending –ed

- And much, much more...

Time to "release your inner geek"?

- To count all the –ly words we need a little computer program, e.g. this written in Perl

```
while (<>){
  if (/\slook\s\(w+ly)\s/){
    count{$1}++;}}
```

- Perl is a programming language which is very well suited to writing text analysis programs

directly	9
anxiously	8
sadly, steadily, thoughtfully	7
nervously	6
fearfully, grimly, longingly, quizzically	4
curiously, slowly	3
blankly, briefly, carefully, frantically, intently, pensively, searchingly, seriously, sheepishly, sympathetically, uneasily, urgently	2
accusingly, appealingly, awkwardly, bitterly, calmly, cautiously, closely, coldly, contemptuously, defiantly, disappointedly, disapprovingly, earnestly, enquiringly, entreatingly, firmly, forlornly, gravely, guiltily, impatiently, incredulously, malevolently, meaningfully, miserably, mournfully, pathetically, pityingly, pleadingly, pointedly, questioningly, quickly, resignedly, sceptically, shakily, sharply, shyly, solemnly, surreptitiously, tenderly, unsurely, vacantly, warily, wistfully	1

Describing thoughts and actions

RESULTS

- The following kinds of action description that give some information about characters' mental states were seen to be frequent in the corpus:
  - Description of simple actions which are intended to imply mental states, e.g. 'Robin rolls his eyes'.
  - Description of facial expressions, such as 'smiles', 'frowns' and 'grins'.
  - Modification of the description of actions by adding an adverb, e.g. 'walks cautiously', by using a troponym, e.g. 'creeps', or with a phrase like 'smiling in relief'.
  - Description of a character as appearing to be in a particular mental state, e.g. 'Harry looks confused'.

Describing thoughts and actions

SUMMARY

- A ‘top-down’, theory-led approach helped us to analyse AD in more detail
- Note, we did not mark-up the corpus prior to analysis
- This is of interest to
  - writers of audio description guidelines
  - researchers in narratology

Automatic grammar extraction?

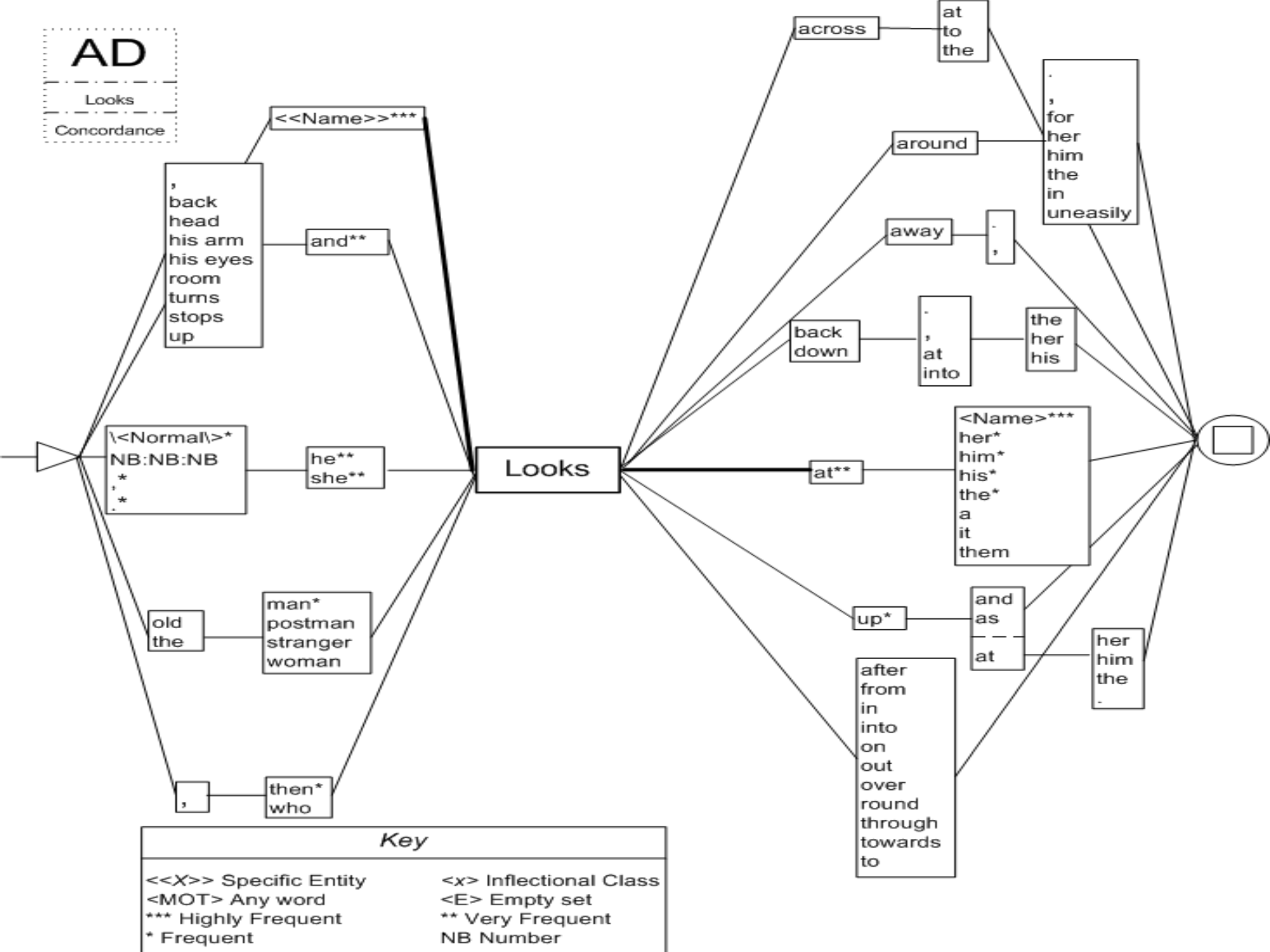
QUESTIONS

- Can we extract a grammar of audio description automatically?

Automatic grammar extraction?

METHOD

- A 100% automated approach, inspired by an approach to formal linguistic analysis (Harris 1988) and the idea of 'local grammars' (Gross 1997)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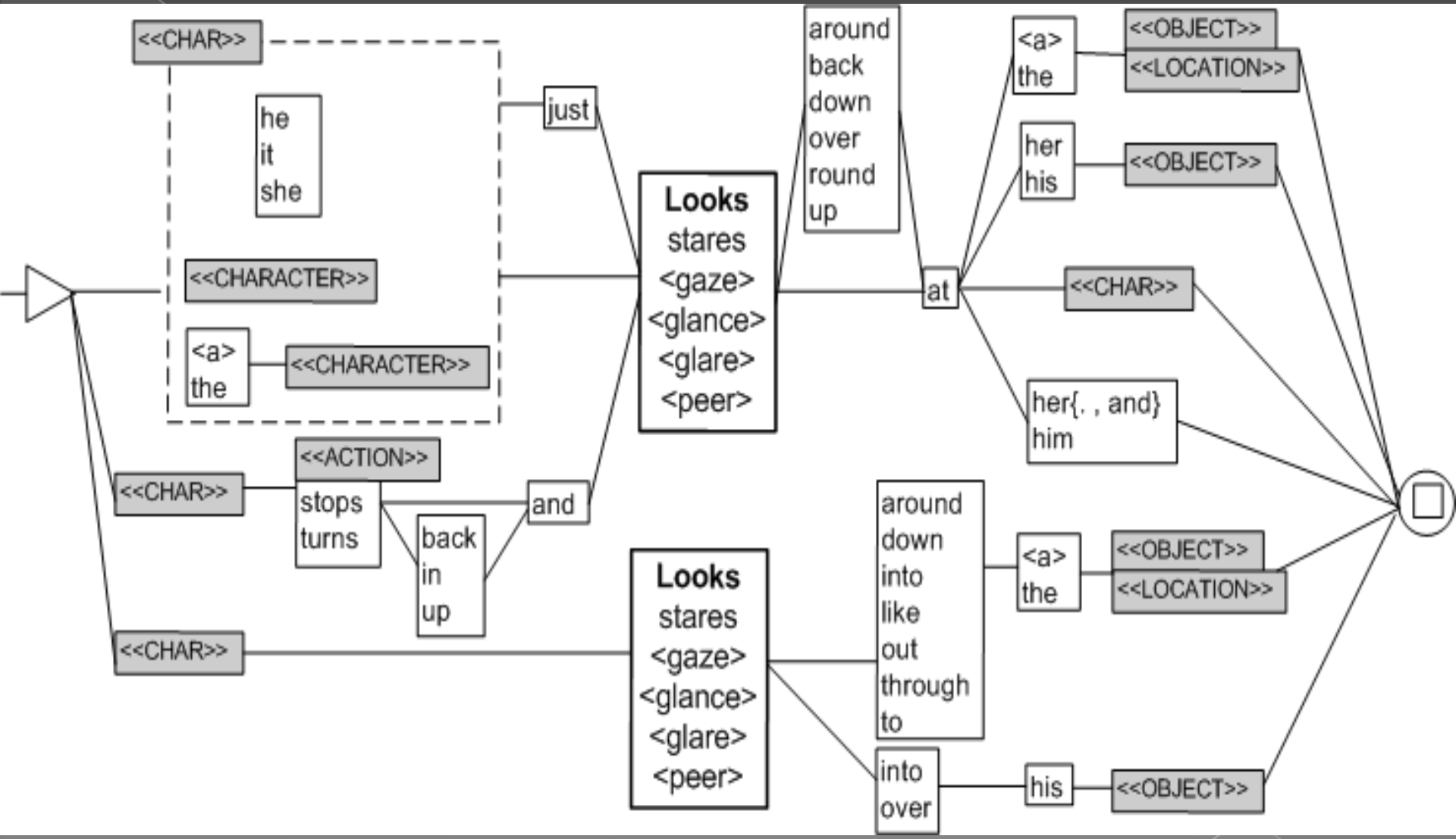
Key
<<X>> Specific Entity
<MOT> Any word
*** Highly Frequent
* Frequent
<x> Inflectional Class
<E> Empty set
** Very Frequent
NB Number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Automatic grammar extraction?

RESULTS (work in progress)

-Howard-She-he-Lawson-Karl-and-Dormer-then-Tom-Gray-she-He-David-Mike-Jerry-Annie-George-Luca-John-Lucy-Willard-Harry-who-

-go-leave-

-nods-turns-

-gate-door-

-As-as-

-hands-hand-

-before-behind-

-another-a-his-some-the-The-

-past-towards-staring-to-motionless-looking-between-on-watching-by-in-at-stops-stands-innocently-sadly-shyly-coldly-back-thoughtfully-piercingly-up-angrily-out-defiantly-curiously-hard-down-uncertainly-across-over-steadily-intently-warmly-bed-him-fondly-anxiously-onto-round-straight-

Automatic grammar extraction?

SUMMARY

- Following the approach pioneered by Harris (1988) we may be able to map from automatically extracted grammars to modelling the information content of AD, and hence films
- This can be viewed as a step towards next generation video databases

SUMMARY

- The analysis of AV corpora is relevant to practice and research in several fields, e.g. Audio-Visual Translation, Narratology, Multimedia Computing
- Data-driven vs top-down approaches
- More or less automation