Randolph Quirk and serial relationship

David Denison
9 July 2019
Memorial event for Randolph Quirk
British Academy


Repr. Quirk (1968: 167-83) and Aarts et al. (2004: 327-39)

Plan

• What is serial relationship?
• Context
• Legacy
• Significance

SERIAL RELATIONSHIP (SR)

Features: properties of items

• Choose items (typically lexical, i.e. words) which share some properties of distribution.
• Select relevant properties, overt and covert.
• Plot items against properties in a table.
• Rearrange table to display similarities and differences most perspicuously.
• Call the table a matrix.

1. He X₁ and X₂ to come every day.
2. He X to come every day.
3. Did he X to come every day?
4. He would X to come every day.
5. He X that
6. He X us to come every day.
7. He X that we should come every day.

<table>
<thead>
<tr>
<th></th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
</tr>
</thead>
<tbody>
<tr>
<td>intends</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>?</td>
</tr>
<tr>
<td>wants</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>seems</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>?</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>has (modal-like)</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>used [just]</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>is (modal-like)</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>may</td>
<td>+</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>

Properties listed by Quirk X₁ is a verb (and X₁ and X₂ are two such verbs, coordinated)

properties only revealed by testing, including being subject to general rules
Matrix can display three things

1. Defining properties of items
2. Degrees of identity between items
   = 'delicacy' of analysis
3. Gradience

- cline or gradient between clearcut members of two categories, with intermediate items situated along it

Question marks along diagonal of matrix (signifying either free variation or doubtful usage) are indicative of gradience.

Survey of English Usage

- Quirk’s paper ‘Towards a description of English usage’ justifies SEU:
  - grammatical description needs a corpus
  - educated British English (cf. Brown Corpus of American English)
  - include speech (unlike Brown)

Towards a description ...

“Some of the most fertile thinking by linguists in recent years has been on the interpenetration of lexicon and grammar, and on the extent to which phrasal construction and interpretation alike depend upon an indissociable complex of semantic analogy and grammatical analogy.”

Towards a description ...

“Some of the most fertile thinking by linguists in recent years has been on the interpenetration of lexicon and grammar, and on the extent to which phrasal construction and interpretation alike depend upon an indissociable complex of semantic analogy and grammatical analogy.”

(Cf. modularity of TGG, which kept lexicon, semantics and grammar strictly apart.)
Gradience

- Quirk adopts Bolinger’s notion of gradience
  - One category can gradually merge into an adjacent category, with items on a scale or gradient running from one to the other.
  - Reaction against strict Aristotelian pigeonholing and binary divisions in structuralist linguistics.
  - See also Aarts’s book-length study.

Transformational Generative Grammar

- Phrase structure rules
  \[ S \rightarrow NP + VP \]
- Transformational rules
  - active \( \Rightarrow \) passive
  - declarative \( \Rightarrow \) interrogative
  - etc.
- Aim to produce algorithmic grammar that generates all and only the possible sentences of a language – at that time, English above all.

Example: passive transformation

```
the police took photos
NP_1  TAKE+pa.t.  NP_2

NP_2  BE+pa.t.  TAKE+pa.ptcp. (by NP_1)
photos were taken (by the police)
```

TGG captures generalisations?

- Just one rule, variously applied:
  Meg expected Jan to leave Tim.
  Meg expected Tim to be left (by Jan).
  Jan was expected (by Meg) to leave Tim.
  Tim was expected (by Meg) to be left (by Jan).
- Premature use of transformations criticised as ‘acrobatics, not descriptions’.

Language not so orderly

- Works:
  People said prayers
  Prayers were said
- Doesn’t work:
  *People/they/someone said him to be foolish
  He was said to be foolish
SR to rescue?

1. They V so.
2. They V that he is Adj.
3. It is Ved that he is Adj.
4. They V him to be Adj.
5. He is Ved to be Adj.
6. They V him Adj.
7. He is Ved Adj.
8. They, V him N_j.

V = say

<table>
<thead>
<tr>
<th></th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
</tr>
</thead>
<tbody>
<tr>
<td>pretend</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>?</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td>feel</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>/</td>
<td>?</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td>say</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>&lt;</td>
<td>+</td>
<td>–</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td>know</td>
<td>–</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>–</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td>find</td>
<td>–</td>
<td>+</td>
<td>+</td>
<td>?</td>
<td>+</td>
<td>?</td>
<td>?</td>
<td>+</td>
</tr>
<tr>
<td>think</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
</tr>
<tr>
<td>declare</td>
<td>–</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>?</td>
<td>?</td>
<td>+</td>
</tr>
<tr>
<td>like</td>
<td>–</td>
<td>–</td>
<td>+</td>
<td>+</td>
<td>–</td>
<td>?</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td>persuade</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>+</td>
<td>+</td>
<td>–</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td>make</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
</tr>
<tr>
<td>call</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>+</td>
</tr>
<tr>
<td>elect</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>+</td>
</tr>
</tbody>
</table>

Phonology, semantics

- Tables and matrices in other linguistic fields.
- In Prague School phonology, phoneme was decomposed into its ‘distinctive features’.
  - Display called a ‘distinctive feature matrix’.
- In componential semantics, a table can indicate presence or absence of a particular feature.
  - Lyons uses 1 for presence, 0 for absence.

Pike’s ‘tagmemic’ syntax

- Quirk (1960) includes Pike among those in ‘main stream of linguistics’ who try to relate form and meaning.
- ‘Multiplication matrices’ in Pike (1959, 1962) have mathematic combinatorial properties but visually resemble Quirk’s
  - apart from x instead of + for presence.
- Quirk (1965) references Pike (1962) and his follower Longacre (1964).
Provisional conclusion

- Serial Relationship was of its time.

Crystal, Svartvik, Coates

- Crystal on English word classes cites Quirk (1965) but does not use SR explicitly.
  - Gradience (within Adj, among temporal nouns, and between Adj and Adv) displayed in SR-like way.
  - Svartvik presents elicited acceptability judgements on dare and need in SR-like tables + frequencies, but only cites other work of Quirk’s.

Big ‘Quirk grammars’ (1972, 1985)

- SR is not in index of 1985 grammar.
- Shades of SR appear in the scale of finiteness of verbs (Fig. 3.52) or the criteria for establishing adjective classes (Table 7.3), etc.

Squish

- Ross’s term for a gradient within a word or phrasal class.
- One of few scholars from outside UCL orbit to embrace SR.

Historical work

- Denison plotted various serial relationships among the impersonal verbs of Old English.
- SR only invoked synchronically for Old English.

- Overall, direct legacy seems to be modest, even in present-day English studies.
Significance

Analogy

- Proportional analogy, ‘A is to B as C is to D’

\[ A : B : : C : D \]

- Examples:
  - book : books\textsubscript{pl} : : beam : beams\textsubscript{pl}
    (infrequent pattern) (increasingly dominant)

- Analogy as mechanism of change explored systematically in Fischer (2007), De Smet & Fischer (2017), etc.
  - Synchronic Quirk (1965) and SR are not cited.
  - SR differs from traditional proportional analogy between one pair and another.
  - SR is a subtle kind of many-to-many analogy.

Diachrony

- Quirk (1965) did not discuss diachrony – only ‘dynamic synchrony’ of language production.
- Diagonal line for gradience may well be of significance for language change, indicating points of vulnerability.
- Modern corpus and elicitation techniques could exploit this.

Example: \( N \rightarrow N, \text{Adj} \)

- Many nouns develop adjectival behaviour alongside their nominal categorisations:
  - cowboy, designer, draft, fun, genius, key, killer, landmark, luxury, niche, rubbish, surprise, etc.
  - Stepwise progression towards adjective-hood.
  - Construct SR analysis to exhibit synchronic gradient and explain diachronic development?

Current alternatives to SR

- Various more or less formal approaches address some of the same issues as SR:
  - Systemic Functional Grammar (Michael Halliday, at UCL 1963-5)
  - Word Grammar (Dick Hudson, at UCL 1964-7)
  - HPSG, ...
  - approaches that use multidimensional scaling
  - Construction Grammar
Construction Grammar

• Most variants of CxG have parallels with SR:
  • Continuity of analysis from word to larger structures
  • Integration of syntax and semantics
  • Different levels of construction representing more abstract (general) or more concrete kinds of resemblance

Limitations of SR

• Choice of features and order is subjective.
• But could perhaps use bottom-up, data-driven computer methods to suggest classification
  • Hilpert, Gries & Stefanowitsch, Szmrecsanyi, …

Quirk: “Computer programs for mechanically sorting and clumping distinctive features so as to show the kind and extent of interrelationship between grammatical structures”!

Limitations of SR

• Costly in time
• Difficult to integrate into formal theory
• Probably always supplementary to other kinds of analysis
• Most convincing in conjunction with elicitation from (living) speakers

Rule or memory?

• Widely acknowledged tension in speech between genuine productivity and use of ready-made strings.
• Middle ground between operation of syntactic rules and use of fixed idioms is more important than often recognised.
• SR describes that middle ground in a psychologically plausible way.

Conclusion

• Serial Relationship was of its time.
• Serial Relationship was before its time.

Thank you

slides and references are on my downloads page:
http://tinyurl.com/DD-download
References

Denison, ‘RQ and Serial Relationship’


Trubetzkoy, N. S. 1939. Grundzüge der Phonologie. (Travaux du Cercle Linguistique de Prague, 7.) Prague.

(https://pure.mpg.de/rest/items/item_2399346_2/component/file_2399345/content).

Denison, ‘RQ and Serial Relationship’