Outline

Simultaneous interpreting involves heavy cognitive load, especially between structurally different languages.

To cope with the load interpreters use various translating strategies.

These strategies can be supported and justified by theories of information structure and working memory.

They are relevant to both machine translation and human translators/interpreters because their translation products must be easy to process and should not surpass the capacity of working memory of readers and listeners.

If translators/interpreters maintain original information structure, the cognitive load of readers and listeners will be reduced, thereby produce an easily comprehensible translation.

『同時通訳の理論』

The book examined strategies of SI from the perspective of working memory constraints.

It has confirmed that interpreters did use various translation strategies in order to cope with the saturation of working memory.

Cowan’ Model of Working Memory

- Working memory is an activated area of long-term memory.
- Focus of attention is a highly accessible area with limited capacity (3 – 5 chunks).
- Central executive controls switching of attention and other activities.

Cowan (1995; 1999)

Comprehensio, Conversion, Production

Working memory is essential for language processing.

FOA: Focus of Attention
MM: Mental Model
AA: Activated Area
LTM: Long Term Memory (non-active)
Although the visit to Indonesia at …

Although the visit to Indonesia at …

(1) In March, the Prime Minister himself visited Indonesia (2) and told the Indonesian president (3) that current crisis cannot be overcome (4) unless a new agreement is concluded with the IMF (5) and structural reform is implemented in earnestness.

Simultaneous Interpreting from English

Linear Translation Strategies

The theme of The Recent International Situation (1) that I have been asked to speak on is an extremely broad theme, (2) which I believe cannot be covered in a mere fifteen- or twenty-minute presentation. (…) I would like to briefly mention key points to provide material for your discussion.

Translation Strategies

Relative Clauses

(1) The theme of The Recent International Situation (2) that I have been asked to speak on (3) is an extremely broad theme, (4) which I believe cannot be covered in a mere fifteen- or twenty-minute presentation. (…) I would like to briefly mention key points to provide material for your discussion.

Strategies for Simultaneous Interpreting

- generalization, approximation, simplification, literal transfer, waiting, chunking (a division of a long sentence into shorter segments, which is often called a salami technique), condensation, intentional reduction, explicitation, dilution, substitution, addition, and anticipation

Linear translation strategies play a major role in simultaneous interpreting between structurally different languages such as English and Japanese

Various ‘strategies’

- English = SVO language; head initial
- Japanese = SOV language; head final

- There are many syntactic symmetries:
  - order of verb phrase and object
  - order of verb and complement
  - order of complementizer and subordinate clause
  - order of nouns and infinitives
  - order of antecedent and relative clause
  - …

- English vs. Japanese

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English vs. Japanese
Linear Translation Strategies

- Devised for the purpose of risk management (avoiding saturation) by interpreters. They are often called 'linear translation' (jun- okuri-no-yaku) among Japanese interpreters.
- Shorten the lag and ensure near-simultaneity.
- Reduce cognitive load not only of interpreters / translators but also of listeners / readers.

Information Structure

- Information Structure is a textual and communicative strategy by which addressee takes the addressee’s state of knowledge into account and construct sentence or discourse so that addressee can understand it easily.
  - Theme – Rheme / Theme – Focus / Topic – Comment / Topic – Focus
  - Given Information – New Information
  - End Weight / End Focus
  - Background - Foreground
  - Accessibility
  - Order of Perception …

Information Structure

Theme - Rheme

- **Theme**: What the sentence is about. It “locates and orients the clause within its context.” (Halliday 2004) Represents information that is backgrounded or assumed.
- **Rheme**: What is said about the theme. Represents information which is highlighted or focused.

- **Yellow Canaries**: have been used to test the air in mining for centuries.
- **In the armchair** sat another, unknown man with his head hidden...

Progression of Theme-Rheme

- The peak of western power (Theme 1) occurred early in the century, in say 1920s. (Rheme 1)
- In 1920s, (Theme 2 = Rheme 1) the West ruled huge amounts of the world. (Rheme 2)
- Over half the world’s territory (Theme 3 = Rheme 2) were directly ruled by Western governments. (Rheme 3)

Intra-sentential development

- This could have occurred nowhere but in England, where men and sea interpenetrate, so to speak
  - the sea entering into the life of most men, and the men knowing something or everything about the sea,
  - in the way of amusement, of travel, or of bread-winning.

Given - New

- **Given information**: Previously known or attended information. What is familiar, given, or retrievable from the text or context.
- **New information**: Previously unknown and unfamiliar information, not retrievable from the text of context.

- What are we doing tomorrow? **We’re climbing Ben Nevis**
  - **Given**
  - **New**

- What are we climbing tomorrow? **We’re climbing Ben Nevis**
  - **Given**
  - **New**
“Generally speaking, the functional perspective of a written sentence conveys and reveals the communicative purpose of the writer. It can therefore, be justly required that a translator should interpret the original perspective correctly and find adequate means to express it. This requirement can necessitate the use of grammatical structures different from those employed in the original.”

Firbas (1999)

“If this [original] order is to be respected in translation in the face of syntactic pressure to the contrary, then syntax has to yield: the translated elements must necessarily assume syntactic roles that are different from those of their counterparts in the original text.”

Vasconcellos (1992)

From Portuguese to English

Reaparecem nas peças as ângulos e as arestas vivas.

Thematic verb

reappear

in-the furniture

Angles and sharp edges

came back.

Idiomatic English translation:

Angles and sharp edges came back.

Translation suggested by Vasconcellos:

Once again furniture had angles and sharp edges.

 Restrictive Relative Clause

(1) I know the girl who speaks Basque.

(私は バスク語を 話す 少女を 知っている。)

(I know the girl, you know, the girl who speaks Basque.)

(2) She returned holding a glass of colorless liquid which she held out to me.

Restrictive Relative Clause

(3) She returned holding a glass of colorless liquid which she held out to me.

(彼女はそれを私に差し出した無色の液体の入ったグラスを持って、私に差し出した。)
Relative Clauses

Non-restrictive Relative Clause

I followed him down the corridor, at the end of which was the manager’s room.

I followed (him) down the corridor. At the end of the corridor there was the manager’s room.

The theme of The Recent International Situation [that I have been asked to speak on] is an extremely broad theme, [which (I believe) cannot be covered / in a mere fifteen- or twenty-minute presentation].

私が(それについて)話してほしいと頼まれた「最近の国際情勢」というテーマは大変幅広いものですので、15分や20分のプレゼンテーションではカバーできないと思います。

Downgrading Main Clause

It is certainly the case that the number of speakers of Japanese as a second or foreign language has increased, mirroring Japan's economic strength.

確かに、第2言語として日本語を話す人の数は日本の経済力を反映して増加した。

Princeton University economist Alan B. Krueger estimates that people who use computers at work earn 10% to 15% more than colleagues in similar occupations who do not use computers.

「プリンストン大学のエコノミスト、クルーガー氏は、仕事でコンピュータを使う人の収入は、同じような職業でコンピュータを使わない人よりも10%から15%多いと推定しています。」

Downgrading Main Clause

IS of a Long Sentence

It consists of two EUROBALL clusters and four clover detectors with BGO shields surrounding a sample as close as possible so as to absorb a few γ-rays of high energy emitted after the neutron capture reaction with reasonable efficiency.

これは、適切な効率で中性子捕獲反応の後、放出する数本の高エネルギーγ線を吸収するように可能な限り近接した陽極体を囲む2台のEUROBALLクラスターと4台のクローバー検出器から成っている。
It consists of two EUROBALL clusters and four clover detectors with BGO shields surrounding a sample as close as possible so as to absorb a few $\gamma$-rays of high energy emitted after the neutron capture reaction with reasonable efficiency.

**Improved Translation**

それは2台のEUROBALLクラスターと4台のクローバー検出器から成っており、BGO遮蔽体が試料をできるだけ近接して取り囲んでいる。そうする目的は、中性子捕獲反応の後で放射された数本の高エネルギー$\gamma$線をある程度効率よく吸収するためである。

It consists of two EUROBALL clusters and four clover detectors and BGO shields are surrounding a sample as close as possible, the purpose of which is to absorb a few $\gamma$-rays emitted after the neutron capture reaction with reasonable efficiency.
Mrs. Rachel Lynde lived just where the Avonlea main road dipped down into a little hollow. The hollow was fringed with alders and ladies' eardrops and traversed by a brook. Its source can be traced back to the woods of the old Cuthbert place.

**Second Pattern**

Avonlea street is dally and down to a little hollow. Mrs. Rachel Lynde lived there. The hollow is fringed with alders and ladies' eardrops and traversed by a brook. Its source can be traced back to the woods of the old Cuthbert place.

**Third Pattern**

Mrs. Rachel Lynde lived just where the Avonlea main road dipped down into a little hollow. The hollow was fringed with alders and ladies' eardrops and traversed by a brook. Its source can be traced back to the woods of the old Cuthbert place.

**Improved Translation**

Mrs. Rachel Lynde lived just where the Avonlea main road dipped down into a little hollow. The hollow was fringed with alders and ladies' eardrops and traversed by a brook. Its source can be traced back to the woods of the old Cuthbert place.

**Translation by Shiro Yamamoto**

The house of Mrs. Rachel Lynde stood just where the Avonlea main road dipped down into a little hollow. The hollow was surrounded by alders and ladies' eardrops and in the middle ran a brook. Its source can be traced back to the little spring near the old Cuthbert place in the wood.
This could have occurred nowhere but in England, where men and sea interpenetrate, so to speak — the sea entering into the life of most men, and the men knowing something or everything about the sea, in the way of amusement, of travel, or of bread-winning.

— Joseph Conrad Youth: A Narrative
<table>
<thead>
<tr>
<th>Clause-to-Clause Translation</th>
<th>Summary</th>
</tr>
</thead>
<tbody>
<tr>
<td>This could have occurred nowhere but in England,</td>
<td>Translators and interpreters should pay attention to information structure.</td>
</tr>
<tr>
<td>こんなことは英国以外では起こらずもなかったろう。</td>
<td>Information structure specifies how senders want to communicate with receivers by using word order. Senders make sentences so that receivers can process them easily and understand what is the most important part of a sentence and what is not.</td>
</tr>
<tr>
<td>where men and sea interpenetrate, so to speak.</td>
<td>The ‘linear translation strategies’ and information structure are inseparable from the constraints of working memory.</td>
</tr>
<tr>
<td>ここでは人間と海が、いわば相互に浸透し合っていて。</td>
<td>The ‘linear translation strategies’ can improve simultaneity and reduce cognitive load.</td>
</tr>
<tr>
<td>—the sea entering into the life of most men,</td>
<td>The ‘linear translation strategies’ are appropriate translation method from the perspective of Translation Studies.</td>
</tr>
<tr>
<td>海はほとんどの人間の生活に入り込み。</td>
<td></td>
</tr>
</tbody>
</table>