Simplifying meaning vs. deepening understanding: handling terminology in scientific English editing

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Purposes of simplification

• To help initial comprehension
  – Information is sometimes removed
• To deepen understanding (to explain)
  – Education (and research?)

For the general public (to inform, to grab attention)
  – Information can be removed or even changed
Text simplification in scientific English editing

- Author and reader expected to have same academic level
- So, is this simplification?

Some examples of typical changes:
Examples of revisions

• Reordering of a sentence or paragraph for emphasis
• Splitting of a sentence for clarity (parsing; 3-line limit)
• Word replacement for grammar (e.g. that/which)
• Addition or removal of articles for grammar (differences in usage between languages)
• Term replacement for ‘faux amis’ (e.g. control, eventually in French-speakers’ English texts)

• Specialist terms specific to a field…
Is correction-revision a type of simplification?

- No
  - Because of the target audience has the same academic level as the author

- Yes
  - Complexity of sentences written by non-native English speakers (breaking down for clarity)
  - Need for reviser to understand the meaning as part of the work (simplification as an intermediate step)
Correction-revision – the problem:
the reviser themselves is a novice

- Technical texts with English errors
  - Lexical and syntactic aspects
  - Untangling technicity from errors
MaDICS – Simpletext

Correction revision workflow with digital aids

Stage 2:
Help from Digital tools e.g., Smart lookup Writeful Ref’n’Write

1. Read for terms & correct English, except where there is interference

2. Define specialist terms

3. Correct and reread for meaning informed by glossary and understanding

Glossary building

Figure 1.
Schema of a sequence of work for correction-revision of a scientific article on an unfamiliar subject

Stage 2:
Help from Digital tools e.g., Smart lookup Writeful Ref’n’Write

Correction revision workflow with digital aids
Correction-revision – present strategies

- Integrated internet search tools:
  - e.g. Word + ‘Smart lookup’, Google, Termium etc.
- Bibliography and context-based
  - Ref ‘n’ Write, Writefull
- Home-made glossaries
1. Introduction

Food webs are composed of complex interactions and energy links among species and the environment (Thompson et al., 2012), creating ecosystems (complex systems) whose functioning is difficult to comprehend. Models try to replicate the major characteristics of the original system to resemble reality and, at the same time, are simple enough to be understood, being crucial in the clarification and understanding of this complexity (Brown et al., 2004).

Among the ecosystem models, the Ecopath-Ecosim (EwE), and EcoTroph (Christensen et al., 2005; Gascuel, 2005) constitute a globally applied tool for modeling aquatic ecosystems (Colléter et al., 2015). The EwE approach describes the ecosystem resources and the interactions among different ecological groups, identifying and
Correction-revision – present strategies

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  - Ref ‘n’ Write, Writefull
- Home-made glossaries
and track disciplines (1,2,3). The maximal power output in cycling is described by a polynomial 2\textsuperscript{nd} order power-pedaling rate relationship with a peak maximal value (P\textsubscript{max}) reached at an optimal pedaling rate (V\textsubscript{opt}) and an optimal torque (T\textsubscript{opt}) (1,4,5,6). This means that athletes’ P\textsubscript{max} theoretically depends on both their “strength” and “velocity” capacities. Although some authors have reported a significant relationship between P\textsubscript{max} and V\textsubscript{opt} in heterogeneous populations (7,8), such a relationship was not observed in a population of male elite track sprint cyclists (1). However, regardless of training status and population, a strong relationship between P\textsubscript{max} and T\textsubscript{max} or T\textsubscript{opt} is consistently observed (1,9), suggesting that the capacity to generate a high torque at the crank remains the main determining factor for maximal power output (1,9).

The capacity to generate maximal torque in cycling is classically associated with the torque-generating capacities of the main lower-limb extensor muscle groups (6,10). For example, Driss et al. (11) reported a strong positive correlation between maximal cycling torque and the peak
"undiagnosed" appears 353,000 times in Google Scholar.

No examples were found in our sentence database.

"non-diagnosed" appears 5,580 times in Google Scholar.

No examples were found in our sentence database.

"negative affects" appears 6,820,000 times in Google Scholar.

No examples were found in our sentence database.

comorbidities appears 1,250,000 times in Google Scholar.

Second World War (WW2) veterans suffer post-traumatic stress disorder (PTSD) and its associated comorbidities.

Information on diabetes duration was abstracted from patient medical charts. Comorbidities were abstracted from patient charts and subsequent polypharmacy. Treatment of AD with acetylcholinesterase (AChE) longer than the national average. Associated with this were different numbers of comorbidities and disease patterns for identical DRG. While 96% of non-Aboriginal children had one or no co-

would consider for patients with specified blood pressures and comorbidities. Practice questions pertained to hospital allation, practice caseload, prevalence of hyperten

generates chronic pain conditions appears 0 time in Google Scholar.
Correction-revision – present strategies

– Integrated internet search tools:
  • e.g. Word + ‘Smart lookup’, Google, Termium etc.
– Bibliography and context-based
  • Ref ‘n’ Write, Writefull
– Home-made glossaries
<table>
<thead>
<tr>
<th>A</th>
<th>Term</th>
<th>B</th>
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<th>G</th>
<th>H</th>
<th>I</th>
<th>J</th>
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<tbody>
<tr>
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<td>Term</td>
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<td>a P_max cycling sprint</td>
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<td>3</td>
<td>afferent</td>
<td>Oxford: conducting or conducted inwards or towards something (for nerves, the central nervous system; for blood vessels, the organ supplied).</td>
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<td>afferent fibers groups III and IV</td>
<td>accepted lingo</td>
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<td><a href="https://www.researchgate.net/publication/272100725_Group_III_and_IV_Muscle_Afferents_Role_on_Central_Motor_Driv">https://www.researchgate.net/publication/272100725_Group_III_and_IV_Muscle_Afferents_Role_on_Central_Motor_Driv</a></td>
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<td>altered synergistic control</td>
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<td><a href="https://www.sciencedirect.com/science/article/abs/pii/S0021929019303148">https://www.sciencedirect.com/science/article/abs/pii/S0021929019303148</a></td>
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<td>ballistic contractions</td>
<td>WP: Ballistic movement can be defined as muscle contractions that exhibit maximum velocities and accelerations over a short period of time. They exhibit high force outputs with low response time.</td>
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<td>bi-articular muscles</td>
<td>Bi-articular muscles are commonly found in the upper and lower extremities of the human body. They are characterized by their two opposing points of attachment.</td>
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<td>biofeedback of the torque signal</td>
<td>ok</td>
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<td>classical bipolar surface EMG</td>
<td>ok. Some use traditional</td>
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<td>classical torque-velocity test</td>
<td>See site for desc</td>
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<td>11</td>
<td>collected from/in participants</td>
<td>from is more common</td>
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<td>common construct</td>
<td>ok for muscles</td>
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<td>common drive</td>
<td>author sometimes uses as uncountable</td>
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<td>common neural command</td>
<td>same message, different muscle</td>
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<td>contraction modalities</td>
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<td>contralateral (ground electrode) and ipsilateral ankle</td>
<td>the part of the ankle</td>
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<td>converging onto the motor neuron pools</td>
<td>&quot;on the neuron&quot; is used</td>
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<td>convolutive blind source separation method</td>
<td>It is a thing but most examples I have found come from audio signal separation. Is it a thing but most examples I have found come from audio signal separation.</td>
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<td>convolutive kernel compensation method</td>
<td>A method of breaking down the data</td>
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<td>21</td>
<td>cortical signature</td>
<td>most images are brain scans. It might be broader.</td>
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<td>22</td>
<td>corticospinal track</td>
<td>WP: The corticospinal tract is a white matter motor pathway starting at the cerebral cortex that terminates on lower motor neurons and interneurons.</td>
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<td>23</td>
<td>crank angular velocity</td>
<td>word order OK</td>
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<td>24</td>
<td>crank length</td>
<td>Connects pedal to gears</td>
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<td>cross-pollination (of research)</td>
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<td>26</td>
<td>cycle ergometer</td>
<td>See site for desc</td>
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**Dorsiflexion**

**Plantar flexion**

**MADICS – Simpletext**

07/07/2021
Conclusion

- A revisor needs to inform themselves of terminology and turns of phrase specific to a subject
- This is not simplification *per se* but requires a stage of simplification
- The tools exploited indicate ways to facilitate comprehension of specialised texts by non-specialist readers