Grammatical misagreement in number

Introduction
The misagreement in number (singular vs. plural) between subject and verb is caused by subject number ambiguity, either intrinsic (the subject itself) or extrinsic (the effect of subject modification).

Experimental sections

Part 1 – Materials and methods section: Methods

Example: Singular subject number intrinsic ambiguity
After 5 min, 20 µL [was or were] injected into the hemacytometer, and cells were counted.

Revision
After 5 min, one volume (20 µL) was injected into the hemacytometer, and cells were counted.

Notes
Singular in symbol form (µL) but pronounced as a plural (microliters), what is the grammatical number of a volume? If the focus is on the entire volume 20 µL being injected rather than increments, the singular verb was is grammatically correct. However, if it is inexplicit whether the injection is all at once or incremental, this ambiguity can be lexically resolved. Analogously, the symbol for grams (g) is also singular in form but plural in pronunciation.

Part 2 – Materials and methods section: Methods

Example: singular subject number extrinsic ambiguity
The subcellular location of the truncated subunits [was or were] identified.

Revision
The truncated-subunit subcellular location was identified.

Notes
Does an intervening prepositional phrase with a plural object affect the number of a singular abstract subject? Location is the subject not subunits. The distraction results from the proximity between the plural object subunits and the singular verb. In the example, the verb number is the grammatically correct singular. However, the proximity of the plural subunits and the singular was is still distracting. In the revision, the merging of the modifiers into a singular premodifier obviates any misagreement in number.

In contrast, does an intervening prepositional phrase with a singular object affect verb number of a plural subject? Different channel estimates in the APML algorithm correspond to a different time interval. The plural subject estimates is undistacted by the singularity of the post-modifier algorithm. Another example (Materials and Methods: method) reinforces the principle of extrinsic modified subject number uncertainty. A sample of 50 patients (age 25-50 yr) with a history of focal epilepsy [was or were] examined. To avoid confusion between the singularity of sample and the plurality of patients, sample can be deleted. This deletion will avoid the conflict between the grammatical correctness of the singular and the rhetorical (notional) effect of the plural. Patients (age, 25-50 yr; n=50) with a history of focal epilepsy were examined.

Consider also this example (from the Results section) that involves a quantifier (e.g., majority). The majority of the proteins was eluted with 1 M NaCl can be revised by using a more explicit subject; that is, Most of the proteins were eluted with 1 M NaCl. Other such weakly inexplicit quantifiers are a number of; a percentage of; a range of; a variety of. For all, a numerical substitute (e.g., a numerical range or approximation) would eliminate the agreement in number uncertainty. For example, the proteins (50-60% of the total number) were eluted with 1 M NaCl.

Part 3 – Materials and methods section: Materials

Example: Singular pre-noun modifier-caused subject plural number ambiguity
Each rat and mouse [was or were] diabetic.

Revision
Each animal (rat, mouse) was diabetic.

Notes
What effect of the singular determiner (indefinite pronoun) each on plural coordinate nouns have on verb number? The singularity of each prevails despite its reference to coordinated nouns, because the focus is on the individuality of each noun of the pair. However, in the revision any uncertainty is resolved by subsuming under a singular noun.

The effect on verb number is the same when each occurs after the coordinated nouns: The erythrocyte fraction and the plasma fraction each contains linoleic acid. However, the possibility of verb singularity or plurality causes a distraction, which can be avoided by post-noun to pre-noun, transposition, coordinated fractions, and subsuming under the singular fraction: Each fraction (erythrocyte, plasma) contains linoleic acid.

Some indefinite pronouns (functioning as determiners) are decidedly singular (each mussel). The singularity of other determiners is less explicit, for example, every. However, every is singular emphasising an item being part of a group (every mussel was analysed). In contrast, the indefinite pronoun none is ambiguous as in none of the isomers [contain or contains] radioactivity. None can mean not one (singular) or not any (plural). Consequently, to avoid such ambiguity, either of these substitutes is preferable to none.

Part 4 – Results section: Data verbalisation

Example: Proximal singular and distal plural noun number ambiguity
There [was or were] a monomer and several dimers.

Revision
There was a combination (monomer, several dimers) present.

Notes
In the example, coordinated subjects of a
different grammatical number (i.e., monomer and dimers) in a there-delayed subject sentence, results in the verb were misagreement in number to the proximal subject monomer. The alternative there was a monomer and several dimers is correct as to proximity of verb and subject, but not as to the coordinated subjects. However, the proximity correctness seems to overrule the coordination incorrectness. In contrast, subsuming under the singular combination is an explicit lexical alternative.

In another example the revision is also to place a summative number before the list: There [was or were] a tRNA, mRNA, and rRNA. There were three RNAs: tRNA, mRNA, and rRNA. Insertion of three RNAs enables the verb were to agree proximally and coordinately with three RNAs. Also, subsuming eliminates the misagreement of a (instead of an) with mRNA and rRNA.

Notes
How do coordinated nouns that are intended to function as a single unit affect verb number? Analogous to a knife and a fork is, diagnosis and treatment is intended as a singular unit requiring a singular verb. The subtlety and infrequency of the collective meaning will elicit questions as to the grammatical correctness, which is rendered explicit in the revision by subsuming the coordinated nouns under the singular term orthodontic management.

Summary
Insight may be gained from the intrinsic and extrinsic perspective because reliance on the rules of grammar may still result in the ambiguity of agreement in number between subject and verb. Instead, lexical alternatives (e.g., a singular summative subject) or an explicit subject (singular or plural) may resolve the ambiguity.

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Contextual sections

Part 1 – Introduction section: Research problem pertinent background

Example: Singular subject number intrinsic ambiguity
No data [is or are] transmitted during the guard time.

Revision
Not any data are transmitted during the guard time.

Notes
Grammatical number ambiguity is caused by a Latinate plural noun (data). Traditionally data is considered a plural count noun, as in many data are transmitted. However, data can be considered as a collective (i.e., a singular) equivalent to information, enabling much (not many) data to be acceptable.

Part 2 – Introduction section: Research problem pertinent background

Example: Coordinated nouns intrinsic singular subject number ambiguity
Traditionally, orthodontic diagnosis and treatment [is or are] taught and practised as a descriptive qualitative subject.

Revision
Traditionally, orthodontic management (diagnosis and treatment) is taught and practised as a descriptive, qualitative subject.

Schematised misagreement in number distractions and preferred revisions

<table>
<thead>
<tr>
<th>Intrinsic subject number ambiguity</th>
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| Traditional, orthodontic diagnosis and treatment is taught and practised as a descriptive qualitative subject. | Traditionally, orthodontic diagnosis and treatment (diagnosis and treatment) is taught and practised as a descriptive, qualitative subject. |
| Each rat and mouse was diabetic. | There was a monomer and several dimers. |

Traditionally, orthodontic diagnosis and treatment is taught and practised as a descriptive qualitative subject. | Traditionally, orthodontic management (diagnosis and treatment) is taught and practised as a descriptive, qualitative subject. |

The stricture on data being only plural and datum singular is, however, relaxed for the Latin agenda. Rarely is the Latin singular agendum used instead of the plural agenda. For example, no one says what are the agenda today? Thus, data can be both a collective singular as well as a plural; however, traditionalists will likely be distracted by a data singular usage. In contrast, not any is unequivocally plural.

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Volume 29 Number 3 | Medical Writing | September 2020 | 99