Tip #16 Respectively

"Respectively" in a comparative series has been used for many years, definitely in educated writing since the 1500s. In scientific writing today, however, the form can tend to hinder understanding. Readers must slow down their reading speed and exercise caution to understand the intended meaning. The <u>problem</u> is very simple: complex style requires more "intellectual energy" and tends to hinder understanding (see Example A).

In writing today, though "respectively" is still used and perhaps retains its nuance of "advanced, educated" English use, more and more writers find that keeping information units together facilitates and even expedites readability and understanding.

USAGE:

- 1. when listing a number of items or attributes that refer to another list separately in the order given
- 2. referring or applying to two or more things previously mentioned in a parallel or sequential way

Just as the problem is very simple, so is the <u>solution</u>: simplify by rewording into an easier-to-understand grammar pattern that keeps units together (see Example B).

NOTE: Some writers purposely use the "respectively" style to force readers to slow down and spend more time thinking about the concept in question. Both are good English structures, and it is your decision which one to choose to better communicate your message and optimize the probability of understanding.

EXAMPLE A Some of the best over-the-counter (OTC) drugs to fight flu are Anadin, Panadol, and Calcold manufactured by Pfizer, GlaxoSmithKline, and McNeil, respectively. ... Anadin, Panadol, and Calcold ... Pfizer, GlaxoSmithKline, and McNeil, respectively. Group 1 Group 2 Group 3 EXAMPLE B Some of the best over-the-counter (OTC) drugs to fight flu are Anadin manufactured by Pfizer, Panadol made by GlaxoSmithKline, and Calcold by McNeil. ... Anadin manufactured by Pfizer, Panadol made by GlaxoSmithKline, and Calcold by McNeil. Group 1 Group 2 Group 3

1. ORIGINAL

Government expenditures rose from 21 percent of GDP in 2010 to 25.8 percent and 30.2 percent in 2011 and 2012, respectively.

1. REVISED

Government expenditures rose from <u>21</u> percent of GDP in 2010 to <u>25.8 percent</u> in 2011, and to <u>30.2 percent in 2012</u>.

2. ORIGINAL

The mean (SD) concentrations of fT3, TBG and TSH were 1.18 (0.15) ng/dL, 35.6 (7.1) μg/mL, 1.19 (1.30) μIU/mL, <u>respectively</u>.

2. REVISED

The mean (SD) concentration of <u>fT3 was</u> 1.18 (0.15) ng/dL, that of <u>TBG 35.6 (7.1)</u> μ g/mL, and that of <u>TSH was 1.19 (1.30)</u> μ IU/mL.

Mean (SD) concentrations varied: (1) fT3, 1.18 (0.15) ng/dL; TBG 35.6 (7.1) μg/mL; and TSH 1.19 (1.30) μIU/mL.

Mean (SD) concentrations varied:

- (1) fT3, 1.18 (0.15) ng/dL;
- (2) TBG, 35.6 (7.1) μ g/mL; and
- (3) TSH, 1.19 (1.30) μ IU/mL.

3. ORIGINAL

When a turtle swims horizontally at constant speed, the horizontal forces, thrust and drag and the vertical forces, buoyancy and gravity, are balanced <u>respectively</u>.

awkward structure confusing with so many commas

3. REVISED

When a turtle swims horizontally at constant speed, a balance is achieved between horizontal forces and vertical forces, between thrust and buoyancy, and between drag and gravity.

When a turtle swims horizontally at constant speed, a balance is achieved between horizontal and vertical forces, thrust and buoyancy, and drag and gravity.

When a turtle swims horizontally at constant speed, a balance is achieved between (1) horizontal forces and vertical forces, (2) thrust and buoyancy, and (3) drag and gravity.

4. ORIGINAL

Our in-situ RB-SR dating instrument enabled us to measure three samples whose K concentrations and ages have been measured previously: a hornblende (K2O=1.12 wt%, 1.75 Ga), a biotite (K2O=8.44 wt%, 1.79 Ga), and a plagioclase (K2O=1.42 wt%, 1.77 Ga). We obtained the model ages of 2.1±0.3, 1.8±0.2, and 2.0±0.3 Ga, respectively, for these samples.

4. REVISED

Our in-situ RB-SR dating instrument enabled us to obtain the model ages of three previously measured samples with known K concentrations and ages: 2.4±0.25 Ga for a hornblende (K2O=1.32 wt%, 1.35 Ga), 2.2±0.15 Ga for a biotite (K2O=7.67 wt%, 1.49 Ga), and 2.0±0.25 Ga for a plagioclase (K2O=1.52 wt%, 1.36 Ga).

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Our in-situ RB-SR dating instrument enabled us to obtain the model ages of three previously measured samples with known K concentrations and ages:

- (1) 2.4±0.25 Ga for a hornblende (K2O=1.32 wt%, 1.35 Ga),
- (2) 2.2±0.15 Ga for a biotite (K2O=7.67 wt%, 1.49 Ga), and
- (3) 2.0±0.25Ga for a plagioclase (K2O=1.52 wt%. 1.36 Ga).

5. ORIGINAL

First, the chaperone protein SecB and the glycolipids were mixed at 5.82 and 0.23 mg/mL, respectively, in the presence of 2.25 % octvl-alvcoside.

5. REVISED

First, in the presence of 2.25 % octyl-glycoside, the chaperone protein SecB were mixed at 5.82 mg/mL, and the glycolipids were mixed at 0.23 ma/mL.