First Example

Original Paragraph:

The smallest of the URFs (RUFA6L), a 207-nucleotide (nt) reading frame overlapping out of phase the NH₂-terminal portion of the adenosinetriphosphatase (ATPase) subunit 6 gene has been identified as the animal equivalent of the recently discovered yeast H⁺-ATPase subunit 8 gene. The functional significance of the other URFs has been, on the contrary, elusive. Recently, however, immunoprecipitation experiments with antibodies to purified, rotenone-sensitive NADH-ubiquinone oxido-reductase [hereafter referred to as respiratory chain NADH dehydrogenase or complex I] from bovine heart, as well as enzyme fractionation studies, have indicated that six human URFs (that is, URF1, URF2, URF3, URF4, URF4L, and URF5, hereafter referred to as ND1, ND2, ND3, ND4, ND4L, and ND5) encode subunits of complex I. This is a large complex that also contains many subunits synthesized in the cytoplasm.

What’s the problem? Or should I say, how many problems can you see?

Let’s see if we can lift the difficult words out temporarily....
The First Sentence Example

First sentence of original paragraph:

The smallest of the URFs (RUFA6L), a 207-nucleotide (nt) reading frame overlapping out of phase the NH₂-terminal portion of the adenosinetriphosphatase (ATPase) subunit 6 gene has been identified as the animal equivalent of the recently discovered yeast H⁺-ATPase subunit 8 gene.

The subject and the verb are separated by 23 words.

How could we change it?

The smallest of the URFs is URFA6L, a 207-nucleotide (nt) reading frame overlapping out of phase the NH₂-terminal portion of the adenosinetriphosphatase (ATPase) subunit 6 gene; it has been identified as the animal equivalent of the recently discovered yeast H⁺-ATPase subunit 8 gene.

Subjects and verbs are close together.

Each part of the sentence makes one point.
Second example

Difficult Words Temporarily Lifted:

The smallest of the URFs, and [A], has been identified as a [B] subunit 8 gene. The functional significance of the other URFs has been, on the contrary, elusive. Recently, however, [C] experiments, as well as [D] studies, have indicated that six human URFs [1-6] encode subunits of Complex I. This is a large complex that also contains many subunits synthesized in the cytoplasm.

The passage is still difficult to understand. Why?

What does the first sentence have to do with the last? Does the third sentence contradict the second? Is the functional significance of the URFs still “elusive”? Will this passage lead us to further discussion about URFs, Complex I, or both?

Let’s look at the first sentence in the original paragraph.
Third Example

One possible revision:

The smallest of the URFs, URFA6L, has been identified as the animal equivalent of the recently discovered yeast \( H^+\)-ATPase subunit 8 gene; the functional significance of the other URFs has been more elusive. Recently, however, several human URFs have been shown to encode subunits of rotenone-sensitive NADH-ubiquinone oxido-reductase. This is a large complex that also contains many subunits synthesized in the cytoplasm; it will be referred to hereafter as respiratory chain NADH dehydrogenase or Complex I. Six subunits of Complex I were shown by enzyme fractionation studies and immunoprecipitation experiments to be encoded by six human URFs (URF1, URF2, URF3, URF4, URF4L, and URF5); these URFs will be referred to subsequently as ND1, ND2, ND3, ND4, ND4L, and ND5.

Check:

Are the verbs close to the subjects?
Does each part of the sentence serve one purpose (see two semicolons)?
Does the end of the sentence deserve emphasis?
Fourth Example

Second Original Paragraph:

Large earthquakes along a given fault segment do not occur at random intervals because it takes time to accumulate the strain energy for the rupture. The rates at which tectonic plates move and accumulate strain at their boundaries are approximately uniform. Therefore, in first approximation, one may expect that large ruptures of the same fault segment will occur at approximately constant time intervals. If subsequent main shocks have different amounts of slip across the fault, then the recurrence time may vary, and the basic idea of periodic mainshocks must be modified. For great plate boundary ruptures the length and slip often vary by a factor of 2. Along the southern segment of the San Andreas fault the recurrence interval is 145 years with variations of several decades. The smaller the standard deviation of the average recurrence interval, the more specific could be the long term prediction of a future mainshock.

This is the kind of paragraph that can make readers feel badly about themselves.

Backward-linking old information is does not appear in the topic position.
Fifth Example

One Possible Revision:

Large earthquakes along a given fault segment do not occur at random intervals because it takes time to accumulate the strain energy for the rupture. The rates at which tectonic plates move and accumulate strain at their boundaries are approximately uniform. Therefore, nearly constant time intervals (at first approximation) would be expected between large ruptures of the same fault segment. [However?], the recurrence time may vary; the basic idea of periodic mainshocks may need to be modified if subsequent mainshocks have different amounts of slip across the fault. [Indeed?], the length and slip of great plate boundary ruptures often vary by a factor of 2. [For example?], the recurrence interval along the southern segment of the San Andreas fault is 145 years with variations of several decades. The smaller the standard deviation of the average recurrence interval, the more specific could be the long term prediction of a future mainshock.

This revision is much better! Many people feel that the misplacement of old and new information is the biggest problem in American professional writing today.

New information should generally be in the emphasis position at the end of the sentence. The beginning of the sentence should refer back to the previous sentence and include the character.
Sixth Example

Original Paragraph:

Transcription of the 5S genes in the egg extract is TFIIIA-dependent. This is surprising, because the concentration of TFIIIA is the same as in the oocyte nuclear extract. The other transcription factors and RNA polymerase III are presumed to be in excess over available TFIIIA, because tRNA genes are transcribed in the egg extract. The addition of egg extract to the oocyte nuclear extract has two effects on transcription efficiency. First, there is a general inhibition of transcription that can be alleviated in part by supplementation with high concentrations of RNA polymerase III. Second, egg extract destabilizes transcription complexes formed with oocyte but not somatic 5S RNA genes.

The writer should put the action in the verbs!
Seventh Example

One possible revision:

In the egg extract, the availability of TFIIIA limits transcription of the 5S RNA genes. This is surprising because the same concentration of TFIIIA does not limit transcription in the oocyte nuclear extract. In the egg extract, transcription is not limited by RNA polymerase or other factors because transcription of tRNA genes indicates that these factors are in excess over available TFIIIA. When added to the nuclear extract, the egg extract affected the efficiency of transcription in two ways. First, it inhibited transcription generally; this inhibition could be alleviated in part by supplementing the mixture with high concentrations of RNA polymerase III. Second, the egg extract destabilized transcription complexes formed by oocyte but not somatic 5S genes.