Errata for
The Feynman Lectures on Physics Volume I
New Millennium Edition (7th printing)

The errors in this list appear in *The Feynman Lectures on Physics: New Millennium Edition* and earlier editions; errors validated by Caltech will be corrected in future printings of the *New Millennium Edition* or in future editions.

Errors are listed in the order of their appearance in the book. Each listing consists of the errant text followed by a brief description of the error, followed by corrected text.

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I:iii, par 9

In the early 1950s Leighton played a key role in showing the mu-meson decays into two neutrinos and an electron, ...

Outdated terminology (“mu-meson” vs. “muon”).

In the early 1950s Leighton played a key role in showing the muon decays into two neutrinos and an electron, ...

I:2-8 par 5

For example, they had already discovered this μ-meson or muon, and we do not yet know where it fits.

Outdated terminology (“μ-meson” vs. “muon”).

For example, they had already discovered this muon, and we do not yet know where it fits.

I:2-10, par 2

Then there is that other, the μ-meson, the muon,...

Outdated terminology (“μ-meson” vs. “muon”).

Then there is that other, the muon,...

I:3-5, par 2

All proteins are not enzymes, but all enzymes are proteins.

Awkward wording. Feynman interrupted himself before finishing this sentence, made some side remarks, then reworded it, "The enzymes are proteins, as I said, but not all proteins are enzymes."

Not all proteins are enzymes, but all enzymes are proteins.

I:4-8, par 1

We can say that the group of particles called leptons are: electron, mu meson, and neutrino.

Outdated terminology ("mu meson" vs. "muon").

We can say that the group of particles called leptons are: electron, muon, and neutrino.

I:6-6, par 6

According to our result for D_{rms}, we expect that the "typical" distance in 30 steps ought to be $\sqrt{30} = 5.5$, or a typical k should be about $5.5 / 2 \; = \; 2.8$ units from 15.

The first equality is actually an approximation so the "approximately equals" sign should be used. The second equality is numerically inaccurate and should be corrected.

According to our result for D_{rms}, we expect that the "typical" distance in 30 steps ought to be $\sqrt{30} \approx 5.5$, or a typical k should be about $5.5/2 = 2.75$ units from 15.

I:15-7, par 1

A very interesting example of the slowing of time with motion is furnished by mu-mesons (muons), ...

Outdated terminology ("mu-mesons" vs. "muons").

A very interesting example of the slowing of time with motion is furnished by muons, ...

I:15-7, par 2 (2 occurrences)

We do not know why the meson disintegrates or what its machinery is, but we do know its behavior satisfies the principle of relativity. … For example, before we have any idea at all about what makes the meson disintegrate, ...

Outdated terminology ("[mu] meson" vs. "muon")

We do not know why the muon disintegrates or what its machinery is, but we do know its behavior satisfies the principle of relativity. … For example, before we have any idea at all about what makes the muon disintegrate, ...

I:16-3, par 4

Just as the mu-mesons last longer when they are moving, ...

Outdated terminology (“mu-mesons” vs. “muons”).

Just as the muons last longer when they are moving, ...

I:16-3, par 5 (3 occurrences)

When we discussed the fact that moving mu-mesons live longer, … But we can also make mu-mesons in a laboratory … one could compare a mu-meson which is left standing with one that had gone around a complete circle, ...

Outdated terminology (“mu-meson(s)” vs. “muon(s)”).

When we discussed the fact that moving muons live longer, … But we can also make muons in a laboratory … one could compare a muon which is left standing with one that had gone around a complete circle, ...

I:28-4, par 4

Only the component of a_x perpendicular to the line of sight is important.

Superfluous word ('of') and missing commas (2).

Only the component a_x, perpendicular to the line of sight, is important.

I:29-7, par 5

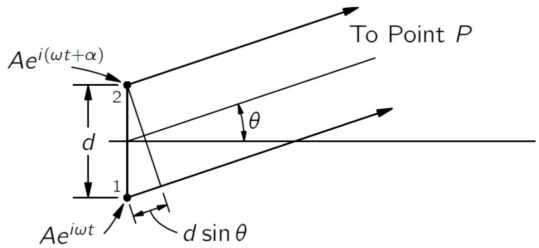
Now let us see how to apply our general formula (29.16) for the case of two oscillators to the special situations which we have discussed qualitatively. To apply this general formula, it is only necessary to find what phase difference, $\phi_1 - \phi_2$, exists between the signals arriving at a given point.

Inconsistency (“$\phi_1 - \phi_2$” vs. “$\phi_2 - \phi_1$”). See Eq. (29.16).

Now let us see how to apply our general formula (29.16) for the case of two oscillators to the special situations which we have discussed qualitatively. To apply this general formula, it is only necessary to find what phase difference, $\phi_2 - \phi_1$, exists between the signals arriving at a given point.

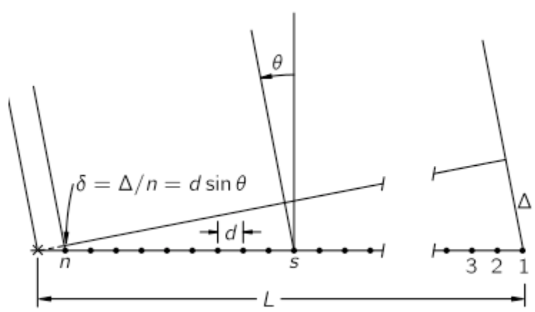
I:29-7, Fig 29-10

For clarity the oscillators have been numbered and we made a few other small graphical improvements:



I:30-2, Fig 30-3

The oscillators are numbered in reverse order. According to Eq. (30.4) and surrounding text, each successive oscillator has more advanced phase than its predecessor, and therefore the higher numbered oscillators should be *closer* to the field point than the lower numbered ones, not further from the field point as currently shown. This figure is most easily corrected by re-numbering the oscillators right-to-left, like this:



I:30-4, par 5

In this case we see that $\sin\theta_{\text{out}} = \sin\theta_{\text{in}}$, which means that the light comes out in the *same direction* as the light which was exciting the grating.

Inaccurate description of Fig. 30-4.

In this case we see that $\sin\theta_{\text{out}} = \sin\theta_{\text{in}}$, which may mean θ_{out} is the *supplement* of θ_{in} so that the light comes out in the *same direction* as the light which was exciting the grating.

I:30-5, par 2

There is another solution for this same case. For a given θ_{in} , θ_{out} may be the supplement of θ_{in}. So not only do we get a beam in the same direction as the incoming beam but also one in another direction, which, if we consider it carefully, is such that the *angle of incidence is equal to the angle of scattering*.

Inaccurate description of Fig. 30-4.

There is another solution for this same case: θ_{in} may *equal* θ_{out}. So not only do we get a beam in the same direction as the incoming beam but also one in another direction, such that the *angle of incidence is equal to the angle of scattering*.

I:33-7, par 6

It is only the component of *A* which is perpendicular to *B, A* cos(*i* + *r*), which is effective in producing *B*.

Unclear statement.

It is only the component of the electric field in the glass which is perpendicular to *B, A* cos (*i* + *r*), which is effective in producing *B*.

I:33-7, par 7

But we see from part (b) of the figure that only the component of *A* that is normal to the dashed line has the right polarization to produce this field, …

Unclear statement.

But we see from part (b) of the figure that only the component of the electric field in the glass that is normal to the dashed line has the right polarization to produce this field, …