Errata for *Modeling Psychophysical Data in R* by Kenneth Knoblauch and Laurence T. Maloney, Springer, ISBN 978-1-4614-4474-9

1. p. 19, The second line of code should read (missing backslashes):

```
> mm <- matrix(unlist(strsplit(as.character(nd$id),
+   "\\.")), ncol = 2, byrow = TRUE)
```

2. p. 20, line 5 of prob. 1.9 should read "2 cycles/second".
3. p. 28, line 5, should read "The function lm is the principal tool ..."
4. p. 41, apparently mcmcsamp in **lme4** was broken when we last ran this function, as the confidence intervals on the random effects do not even include the estimates. An alternative, in this case, would be to use the lme function in the **nlme** package. The code to perform this analysis with lme and the results are shown below

```
> library(nlme)
> data(ModelFest.df, package = "MPDiR")
> mfGab <- droplevels(subset(ModelFest.df, Stim %in% paste0("Stim", 1:10)))

> mfGab.lme <- lme(LContSens ~ Stim, data = mfGab, random = ~ 1 | Obs/Stim)
> mfGab.lme

Linear mixed-effects model fit by REML
  Data: mfGab
  Log-restricted-likelihood: 354
  Fixed: LContSens ~ Stim
(Intercept)   StimStim2   StimStim3   StimStim4   StimStim5   StimStim6   StimStim7   StimStim8
     1.8210      0.1394      0.2422      0.2855      0.1710      0.0227     -0.2001     -0.5232
  StimStim9  StimStim10
    -0.8615     -1.2535

Random effects:
 Formula: ~1 | Obs
        (Intercept)
StdDev:       0.151

 Formula: ~1 | Stim %in% Obs
        (Intercept) Residual
StdDev:       0.112    0.105

Number of Observations: 640
Number of Groups:
          Obs Stim %in% Obs
           16           160
>  intervals(mfGab.lme)

Approximate 95% confidence intervals

 Fixed effects:
              lower    est.  upper
(Intercept)  1.7251  1.8210  1.917
StimStim2    0.0530  0.1394  0.226
StimStim3    0.1558  0.2422  0.329
StimStim4    0.1992  0.2855  0.372
StimStim5    0.0846  0.1710  0.257
StimStim6   -0.0637  0.0227  0.109
StimStim7   -0.2864 -0.2001 -0.114
StimStim8   -0.6096 -0.5232 -0.437
StimStim9   -0.9479 -0.8615 -0.775
StimStim10  -1.3399 -1.2535 -1.167
```

```
attr(,"label")
[1] "Fixed effects:"

 Random Effects:
  Level: Obs
                lower  est. upper
sd((Intercept)) 0.103 0.151 0.221
  Level: Stim
                 lower  est. upper
sd((Intercept)) 0.0965 0.112 0.129

 Within-group standard error:
 lower   est.  upper
0.0989 0.1054 0.1122
```

5. p. 45, about half-way down the page, the first line of the qplot command, the name of the data should be Chromatic.
6. p. 54, point 3 before Sect. 2.6.1, "expected value of the response, μ,"
7. p. 59, first line after Eq. 2.17 Michaelis-Mention should be Michaelis-Menten.
8. p. 105, line 8, should read "...and a logical, Stim, indicating..."
9. p. 108, lines 8–9, it should read, "We will abandon the latter in favor of the former, . . . "
10. p. 109, line 2, after code at top of page, level should read Intensity.
11. p. 130, The 3 lines of code just after the first paragraph

    ```
    > GrpResp <- Grp.glm <- vector("list", 2)
    > names(GrpResp) <- names(Grp.glm) <- names(levs)
    > for (nlevs in names(levs)) {
    ```

    should be deleted.
12. p. 134, The plot command for Fig. 4.10 is missing. It should be

    ```
    plot(indiv.diags[[1]], cex = 0.5)
    ```
13. p. 137, In the code at the bottom of the page, the llines command in the panel function was truncated. It should have read,

    ```
    +       llines(nd$Phaseshift[nd$ID == which],
    +            $pred[nd$ID == which], lwd = 2, ...)
    ```
14. p. 163, the code to draw Fig. 5.9 is at the bottom of p. 164.
15. p. 165 caption for Fig. 5.10, "dotted" for "solid grey" and just "solid" for "solid black".
16. p. 173, Fig. 6.4b-d, It should have been indicated that these three figures come from Ahumada, Jr., A. J. (1996). Perceptual classification images from vernier acuity masked by noise, *Perception* **25(ECVP Suppl.)**, 18 (abstract) at `http://vision.arc.nasa.gov/publications/ecvp96a/abs.html`.
17. p. 202, line 1, it should read, $d' = 2\sigma^{-1}$.
18. p. 203, Eq. (7.9) missing closing bracket
    $\Phi^{-1}(\mathsf{E}[P(R = 1)]) = \boldsymbol{X}\beta$
19. p. 243, Equation (8.18) should read
    $$g(\mathsf{E}[P(R = 1)]) = \boldsymbol{X}\beta,$$
    where g should be indicated as the link function.
20. p. 277, line 8 from bottom, the code should read (missing backslashes),

    ```
    +    trace.label = "\n   Flanker \n    Contrast ",
    ```
21. p. 278, 3rd line from bottom, the code should read (missing backslashes),

    ```
    +     title = "Flanker\nContrast", cex = 0.75),
    ```
22. p. 285, line 3, the code should read (missing backslash),

```
+   title = "Flanker of \n Contrast ")
```

23. p. 306, line 13, it should read "...defined on p. 304..."

24. p. 310-311, for the code at the bottom of the first page and the beginning of the next, some of the results should be distributed along 2 lines. It should read as,

```
> a.lst <- list(A = LETTERS[1:5], B = (1:5)^2,
+    state = c(TRUE, FALSE, TRUE),
+    f = factor(c("Male", "Female", "Male", "Female", "Female")))
> a.lst
$A
[1] "A" "B" "C" "D" "E"

$B
[1]  1  4  9 16 25

$state
[1]  TRUE FALSE  TRUE

$f
[1] Male   Female Male   Female Female
Levels: Female Male
```

25. p. 311, lines 13–14 should be distributed across three lines as in

```
> a.lst[2]
$B
[1] 1 4 9 16 25
```

26. p. 312, lines 12–13 from the bottom, the code should be distributed across three lines as in

```
> d.df[5, 3]
[1] Normal
Levels: Normal Protan Deutan Tritan
```

27. P. 328, line 1 space between "last function"

28. p. 348, line 9 after Eq. B.43, period after $\lambda = 1$.