```
int nr = 0,   ## RW: (nr==0 or nw==0) and nw<=1
    nw = 0;
sem e = 1,    # controls entry to critical sections
    r = 0,    # used to delay readers
    w = 0;    # used to delay writers
              # at all times 0 <= (e+r+w) <= 1
int dr = 0,   # number of delayed readers
    dw = 0;   # number of delayed writers
process Reader[i = 1 to M] {
  while (true) {
    # ⟨await (nw == 0) nr = nr+1;⟩
      P(e);
      if (nw > 0) { dr = dr+1; V(e); P(r); }
      nr = nr+1;
      if (dr > 0) { dr = dr-1; V(r); }
      else V(e);
    read the database;
    # ⟨nr = nr-1;⟩
      P(e);
      nr = nr-1;
      if (nr == 0 and dw > 0) { dw = dw-1; V(w); }
      else V(e);
  }
}
process Writer[j = 1 to N] {
  while (true) {
    # ⟨await (nr == 0 and nw == 0) nw = nw+1;⟩
      P(e);
      if (nr > 0 or nw > 0) { dw = dw+1; V(e); P(w); }
      nw = nw+1;
      V(e);
    write the database;
    # ⟨nw = nw-1;⟩
      P(e);
      nw = nw-1;
      if (dr > 0) { dr = dr-1; V(r); }
      elseif (dw > 0) { dw = dw-1; V(w); }
      else V(e);
  }
}
```

Figure 4.13 A readers/writers solution using passing the baton.

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