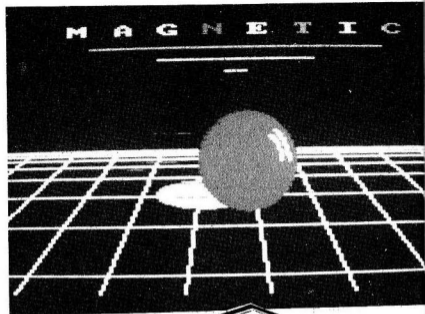
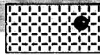


# MAGNETIC

● Pierre SCHAAF

*De evolutionus sphérum ou les aventures d'une bille aimantée se promenant sur un tableau quadril. Or, çà et là ont été disposés, par un ordinateur malicieux des aimants de même signe que ladite sphère. Les lois de la physique étant ce quelles sont, la trajectoire de la boule métallique est déviée. A vous d'en déduire la position des aimants. Simple, non ? Le mode d'emploi est inclus dans le listing.*





```
10 REM *** MAGNETIC *** >PE 470 PLOT 200,180 >CA 24
15 REM *** SCHAUFF PIERRE *** >VG 490 PLOT 280,150:DRAW 295,150 >M 1060 SYMBOL 232,102,102,195,195,195 >ML
20 REM *** presentation *** >VN 490 PLOT 250,150:DRAW 265,150 >NK 1231,126,32
30 MODE 0:BORDER 0:INK 0,0:INK 1,16 >ZG 500 PLOT 235,150 >BK 1060 CLS:LOCATE 12,12:PEN 2:PRINT"V >BA
:INK 2,14:INK 3,17:INK 4,9:INK 5,24 >XK 510 PLOT 250,130:DRAW 255,130 >HX (EUILLEZ PATIENTEZ":FOR i=0 TO 500:N
:INK 6,2:INK 7,21:INK 8,15:INK 9,11 >WB EXT
:INK 10,22:INK 11,25 >WA 530 PLOT 280,130:DRAW 290,130
40 DATA M,A,G,N,E,T,I,C >RT 540 PLOT 180,170:DRAW 200,170 >MA
50 FOR i=1 TO 8 >NK 550 INK 12,26:INK 13,13:INK 14,6:PR >VD
60 READ a$(i) >DB INT CHR$(22)+CHR$(0)
70 NEXT >YH 560 CALL @B006:GOTO 700 >QH
80 LOCATE 4,3 >HK 570 FOR i=P/4 TO 0 STEP -0.03 >MP 1130 FOR i=1 TO nbrainant >UB
90 FOR i=1 TO 8 >PD 580 PLOT r*COS(i),r*SIN(i),12 >YE 1140 posx=INT(RND(1)*29+1):IF posx<>RH
100 PEN i:PRINT a$(i):" " >TE 590 NEXT:RETURN >MJ 6 0R posx/2=INT(posx/2) THEN 1140
110 NEXT >DH 600 FOR i=1 TO 15 >CD 1150 posy=INT(RND(1)*18+1):IF posy<>TP
120 PEN 9:LOCATE 5,4:PRINT" _____ >FZ 610 SOUND 2,440,25,i,,1 >QH 3 0R posy/2<>INT(posy/2) THEN 1150
" >NC 620 SOUND 2,415,20,i >MC 1160 IF aimant(posx,posy)=1 THEN 11 >LR
130 PEN 10:LOCATE 8,5:PRINT" _____ >GB 630 NEXT:RETURN >MD 40 ELSE aimant(posx,posy)=1
700 REM *** initialisations *** >ZR 1170 NEXT i >VE
140 PEN 11:LOCATE 11,6:PRINT" _____ >ZG 710 MODE 1:BORDER 9:INK 0,9:INK 1,0 >UH 1200 REM *** dessin ecran *** >VG
150 INK 12,0:INK 13,0:INK 14,0:PRIN >VP :INK 2,26:INK 3,6 >YH INT CHR$(22)+CHR$(1) >YO
160 FOR i=3 TO 12 >CD 720 SYMBOL AFTER 232 >FZ 1210 CLS:INK 1,9:INK 2,9:INK 3,9:PR >YD
170 a=INT(1.6^i) >LW 730 SYMBOL 232,102,102,195,195,195 >LZ 1220 FOR i=390 TO 70 STEP -32 >UV
180 PLOT 1,200-a:DRAW 638,200-a,12 >AZ 231,126,32 >TK 1230 PLOT 54,i:DRAW 500,i >TV
190 NEXT >EF 800 REM *** regles *** >NA 1240 NEXT i >VC
200 FOR i=30 TO 270 STEP 60 >TR 810 PEN 1:LOCATE 4,12:PRINT"Voulez- >NW
210 PLOT 319+1,195:DRAW 319+2*i,1 >ZP vous les regles (O/N)?" >YU
220 PLOT 319-1,195:DRAW 319-2*i,1 >ZX 820 a$=UPPER$(INKEY$):IF a$="" THEN >FY
230 NEXT >EA 820 >Y 830 IF a$="O" THEN GOSUB 3500:GOTO >DP
240 ORIGIN 290,135 >MQ 830 >Y 840 IF a$<>"N" THEN 820 >PK
250 FOR i=P/2 TO 0 STEP -0.03 >WG 850 CLEAR x:Sy=10:xa=x:ya=y >ZF
260 a=70*COS(i):b=20*SIN(i) >VB 860 DIM aimant(33,22),essai(33,22) >BD
270 PLOT a,b,13:DRAW -a,b:PLOT -a,- >NY b:DRAW a,-b >XB
280 NEXT >EF 880 RESTORE 1610 >LF 890 REM *** jeu avec ou sans trace >CM
290 ORIGIN 350,180 >MT *** >Y 910 SYMBOL AFTER 147 >PF
300 GOSUB 600 >GJ 920 FOR i=147 TO 156 >MT
310 FOR i=P/2 TO 0 STEP -0.03 >VD 930 SYMBOL i,0 >WB
320 a=70*COS(i):b=70*SIN(i) >WD 940 NEXT i >PB
330 PLOT a,b,14:DRAW -a,b:PLOT -a,- >NW 950 CLS:PEN 1:LOCATE 4,10:PRINT"Vous >YU
b:DRAW a,-b >Y 960 >Y 970 IF a$="O" THEN 990 >NU
340 NEXT >EC 980 IF a$<>"N" THEN 960 ELSE 1050 >XA
350 FOR i=1 TO 7 >WD 990 SYMBOL 147,24,24,24,31,15 >MP
360 SOUND 1,430,10,15,,,1 >YA 1000 SYMBOL 147,24,24,24,24,24,2 >EG
370 INK 12,26:INK 13,13:INK 14,6:PR >RD 4,24 >Y 1010 SYMBOL 150,0,0,0,15,31,24,24,2 >BY
INT CHR$(22)+CHR$(0) >QB 4 >Y 1020 SYMBOL 153,24,24,24,24,240 >YU
380 FOR j=0 TO 50:NEXT >QB 1030 SYMBOL 154,0,0,0,255,255 >MQ
390 INK 12,0:INK 13,0:INK 14,0:PRIN >VM 1040 SYMBOL 156,0,0,0,240,240,24,24 >DM
T CHR$(22)+CHR$(1) >DK 1050 SYMBOL 156,0,0,0,240,240,24,24 >DM
400 NEXT >DK 1060 SYMBOL 156,0,0,0,240,240,24,24 >DM
410 r=60:GOSUB 570:GOSUB 600:r=50:G >LA 1070 SYMBOL 156,0,0,0,240,240,24,24 >DM
OSUB 570 >QB 1080 SYMBOL 156,0,0,0,240,240,24,24 >DM
420 ORIGIN 0,0 >QB 1090 SYMBOL 156,0,0,0,240,240,24,24 >DM
430 PLOT 250,220,14:DRAW 270,220 >YH 1100 SYMBOL 156,0,0,0,240,240,24,24 >DM
440 PLOT 235,220:PLOT 220,220 >NM 1110 SYMBOL 156,0,0,0,240,240,24,24 >DM
450 PLOT 230,180:DRAW 250,180 >WD 1120 SYMBOL 156,0,0,0,240,240,24,24 >DM
460 PLOT 210,180:DRAW 220,180 >WZ 1130 SYMBOL 156,0,0,0,240,240,24,24 >DM
```



```
1500 r=33:GOSUB 1520:r=27:GOSUB 157 >WV
0:r=23:GOSUB 1570
1510 INK 1,0;INK 2,26;INK 3,6:PRINT >FH
CHR$(22)+CHR$(0):GOTO 1610
1520 FOR i=0 TO P1/2 STEP 0.05 >WN
1530 a=r*COS(i):b=r*SIN(i) >VJ
1540 PLOT a,b,3:PLOT -a,-b:PLOT -a, >NG
b:PLOT a,-b
1550 NEXT i >VB
1560 RETURN >FF
1570 FOR i=0 TO P1/4 STEP 0.05 >WM
1580 PLOT r*COS(i),r*SIN(i),2 >YC
1590 NEXT i >WA
1600 RETURN >FA
1610 DATA G,N,E,T >LJ
1620 LOCATE 34,4:PRINT" M":GOSUB 400 >RA
0:LOCATE 34,6:PRINT" A":GOSUB 4000
1630 FOR j=34 TO 40 STEP 2 >KR
1640 READ a$:LOCATE j,8:PRINT a$:GO >RE
SUB 4000
1650 NEXT j >VJ
1660 LOCATE 40,10:PRINT" I":GOSUB 40 >VP
00:LOCATE 40,12:PRINT" C":GOSUB 4000

1670 PEN 2:LOCATE x,y:PRINT CHR$(23 >EW
1)
1680 REM *** entree clavier *** >XJ
1690 a$=UPPER$(INKEY$):IF a$="" THE >HG
N 1690
1700 IF a$=CHR$(242) OR a$=CHR$(243 >KM
) THEN 1800
1710 IF a$=CHR$(240) OR a$=CHR$(241 >KK
) THEN 1900
1720 IF a$=CHR$(224) THEN 2000 >VH
1730 IF a$="P" THEN 2800 >QP
1740 IF a$="S" THEN 3000 >QL
1750 IF a$="A" THEN 3100 >PC
1760 GOTO 1690 >NH
1800 REM *** deplacement droite-gau >KB
che ***
1810 IF y=2 OR y=20 THEN 1820 ELSE >CD
1690
1820 IF a$=CHR$(243) THEN 1850 >MP
1830 IF x=5 THEN 1690 >ND
1840 xa=x-2:GOTO 1870 >PY
1850 IF x=31 THEN 1690 >PV
1860 xa=x+2 >XD
1870 LOCATE x,y:PRINT" ":LOCATE xa, >FM
ya:PEN 2:PRINT CHR$(231)
1880 x=xa:y=ya:GOTO 1690 >UE
1900 REM *** deplacement haut-bas * >DX
**
1910 IF x=5 OR x=31 THEN 1920 ELSE >DA
1690
1920 IF a$=CHR$(241) THEN 1950 >WP
1930 IF y=2 THEN 1690 >NC
1940 ya=y-2:GOTO 1870 >PB
1950 IF y=20 THEN 1690 >PV
1960 ya=y+2:GOTO 1870 >PB
2000 REM *** deplacement de la bouli >FB
e ***
2010 IF (x=5 AND y=2) OR (x=31 AND >DR
y=2) OR (x=5 AND y=20) OR (x=31 AND
y=20) THEN 1690
2020 IF x=5 THEN sens=1 >RB
2030 IF x=31 THEN sens=2 >RD
2040 IF y=2 THEN sens=3 >RD
2050 IF y=20 THEN sens=4 >RG
2060 LOCATE x,y:PRINT" " >TH
2070 ON sens GOTO 2110,2140,2170,22 >XC
2080 IF essai(x,y)=1 THEN essai(x,y >WY
)=0:coup=coup-1
2090 LOCATE x,y:PEN 2:PRINT CHR$(23 >EM
1)
2100 xa=x:ya=y:GOTO 1690 >UP
2110 GOSUB 2300:x=x+2 >PM
2120 IF INKEY(69)=0 THEN x=5:y=2 >ZN
2130 IF x=31 OR x=5 OR y=2 OR y=20 >RH
THEN 2080 ELSE 2070
2140 GOSUB 2300:x=x-2 >PT
2150 IF INKEY(69)=0 THEN x=5:y=2 >RT
2160 IF x=5 OR x=31 OR y=2 OR y=20 >TE
THEN 2080 ELSE 2070
2170 GOSUB 2300:y=y+2 >PW
2180 IF INKEY(69)=0 THEN x=5:y=2 >ZV
2190 IF x=5 OR x=31 OR y=20 OR y=2 >TF
THEN 2080 ELSE 2070
2200 GOSUB 2300:y=y-2 >PR
2210 IF INKEY(69)=0 THEN x=5:y=2 >ZN
2220 IF x=5 OR x=31 OR y=2 OR y=20 >TB
THEN 2080 ELSE 2070
2300 REM *** test de position des a >LC
imants ***
2310 aimant=1 >QG
2320 IF aimant(x+2,y)=1 THEN aimant >NH
=aimant+1
2330 IF aimant(x-2,y)=1 THEN aimant >NM
=aimant-2
2340 IF aimant(x,y+2)=1 THEN aimant >NN
=aimant+4
2350 IF aimant(x,y-2)=1 THEN aimant >NW
=aimant-8
2360 ON aimant GOSUB 2380,2410,2470 >BW
,2380,2530,2590,2600,2530,2610,2670
,2680,2610,2380,2410,2470
2370 RETURN >FF
2380 IF sens=1 OR sens=2 THEN trace >QV
$=CHR$(154) ELSE trace$=CHR$(149)
2390 IF x=5 OR x=31 OR y=2 OR y=20 >DT
THEN RETURN ELSE GOSUB 2690
2400 RETURN >EK
2410 ON sens GOTO 2420,1690,2450,24 >CW
60
2420 IF x=5 THEN x=3:y=2:RETURN >ZG
2430 IF (aimant=14 AND sens=1) THEN >BR
sens=2:x=x-4:RETURN
2440 GOTO 2530 >MH
2450 sens=2:trace$=CHR$(153):GOSUB >GP
2690:y=y-2:x=x-2:RETURN
2460 sens=2:trace$=CHR$(156):GOSUB >GR
2690:y=y+2:x=x-2:RETURN
2470 ON sens GOTO 1690,2480,2510,25 >CC
20
2480 IF x=31 THEN x=33:y=20:RETURN >CB
2490 IF (aimant=15 AND sens=2) THEN >BX
sens=1:x=x+4:RETURN
2500 GOTO 2610 >MD
2510 sens=1:trace$=CHR$(147):GOSUB >GL
2690:y=y-2:x=x+2:RETURN
2520 sens=1:trace$=CHR$(150):GOSUB >GD
2690:y=y+2:x=x+2:RETURN
2530 ON sens GOTO 2540,2550,2560 >YA
2540 sens=4:trace$=CHR$(153):GOSUB >BR
2690:x=x-2:y=y-2:RETURN
2550 sens=4:trace$=CHR$(147):GOSUB >BU
2690:x=x+2:y=y-2:RETURN
2560 IF y=2 THEN x=31:y=0:RETURN >AM
2570 IF (aimant=8 AND sens=3) THEN >AH
sens=4:y=y-4:RETURN
2580 GOTO 2470 >NF
2590 IF sens=1 THEN 2530 ELSE 2410 >ZY
2600 IF sens=2 THEN 2530 ELSE 2470 >ZX
2610 ON sens GOTO 2620,2630,1690,26 >CA
40
2620 sens=3:trace$=CHR$(156):GOSUB >GQ
2690:x=x-2:y=y+2:RETURN
2630 sens=3:trace$=CHR$(150):GOSUB >GH
2690:x=x+2:y=y+2:RETURN
2640 IF y=20 THEN x=5:y=22:RETURN >BU
2650 IF (aimant=12 AND sens=4) THEN >BY
sens=3:y=y+4:RETURN
2660 GOTO 2410 >MJ
2670 IF sens=1 THEN 2610 ELSE 2410 >ZW
2680 IF sens=2 THEN 2610 ELSE 2470 >ZE
2690 IF essai(x,y)=1 THEN essai(x,y >WF
)=0:coup=coup-1
2700 PEN 3:LOCATE x,y:PRINT trace$ >CZ
2710 RETURN >FD
2800 REM *** placer un aimant *** >YV
2810 IF coup<>nbraimant THEN 2840 >BF
2820 PEN 2:LOCATE 5,24:PRINT"Suppri >PF
mer d'abord un aimant"
2830 GOSUB 4060:FOR i=1 TO 2000:NEX >CU
T i:GOSUB 3350:GOTO 1690
2840 GOSUB 2890 >YF
2850 LOCATE joux,jouy:PEN 2:PRINT C >MA
HR$(232)
2860 IF aimant(joux,jouy)=1 THEN sc >TE
ore=score+1
2870 essai(joux,jouy)=1:coup=coup+1 >GF
2880 IF coup=nbraimant THEN 3200 EL >JX
SE 1690
```



```

2890 PEN 2:LOCATE 5,24:PRINT"Coordo >FX
nnees (lettre,chiffre)":GOSUB 4060
";
3310 a$=UPPER$(INKEY%):IF a$="" THE >GW
N 3310
3320 IF a$="" THEN 850 >PU
3330 IF a$<"N" THEN 3310 >QY
3340 CLS: BORDER 1:INK 0,1:INK 1,24: >LB
PEN 1:END0
3350 LOCATE 5,24:PRINT SPACE$(34) >BC
3360 RETURN >FF
3370 REM *** regles *** >PP
3510 CLS:LOCATE 14,2:PEN 2:PRINT"R >NJ
E G L E 5"
3520 LOCATE 13,3:PEN 3:PRINT" _____ >RT
"
3530 PEN 1:LOCATE 2,6:PRINT" Vous d >FG
isposez d'une bille aimantee pourvo
us deplacer sur une grille de jeu."
3540 PRINT"Vous ne pouvez deplacer >MF
la bille que surle pourtour de cett
e grille."
3550 PRINT:PRINT" Par contre, la bi >CR
lle peut etre lanceesur la grille
, elle se deplace en linedroite p
our atteindre le cote oppose."
3560 PRINT:PRINT" Bien entendu,l'or >QH
dinateur a dispose, auhasard, des a
imants de meme nature surla grill
e."
3570 PRINT:PRINT" Si un aimant se t >EQ
rouve sur le chemin devotre bille,
celle-ci est repoussee etvoit sa
direction modifiee."
3580 GOSUB 3910 >YB
3590 PRINT:PRINT"Exemple : " >AN
3600 LOCATE 23,2:PEN 3:PRINT CHR$(1 >VV
96)+ " +CHR$(149) "
3610 LOCATE 23,4:PRINT CHR$(149)+ " >WZ
+CHR$(147)+ " +CHR$(154)+ " +CHR$(
197)
3620 LOCATE 21,6:PRINT CHR$(154)+ " >JG
+CHR$(153)+ " ;PEN 2:PRINT CHR$(2
32);PEN 3:PRINT" +CHR$(150)+ " +C
HR$(154)
3630 LOCATE 21,8:PRINT CHR$(199)+ " >BA
+CHR$(154)+ " +CHR$(156)+ " +CHR$(
149)+ "
3640 LOCATE 25,10:PRINT CHR$(149)+ " >PP
+CHR$(198)
3650 FOR i=262 TO 358 STEP 32 >VE/
3660 PLOT 343,i,1:DRAW 439,i >VD
3670 NEXT i >WB
3680 FOR i=343 TO 439 STEP 32 >VH
3690 PLOT i,262:DRAW i,358 >UG
3700 NEXT i >VF
3710 LOCATE 2,5:PEN 2:PRINT CHR$(23 >UE
2)+ " : aimant"
3720 LOCATE 2,7:PEN 3:PRINT CHR$(15 >DU
4)+ " : trajet bille"
3730 LOCATE 1,13:PEN 1:PRINT"Les ai >VA
nants ne sont pas visibles, a vousd
e determiner leurs positions en dep
lac-ant la bille sur toute la grill
e."
3740 PRINT:PRINT"Le nombre d'aima >FF
nts a trouver varieentre 5 et 10
."
3750 PRINT"Lorsqu'il s'agit de tous >LY
ces,l'ordinateuraffiche le nombre d
'aimants mals places."
3760 PRINT"A vous de les replacer a >KD
u bon endroit..."
3770 GOSUB 3910 >YC
3780 LOCATE 1,7:PRINT"Le jeu possed >WZ
e un mode normal(difficile)et un mo
de trace(facile)."
3790 PRINT:PRINT"En mode trace, un >ED
trait s'affiche sur lepassage de la
bille, alors qu'en modenormal,
il ne s'affiche rien."
3800 PRINT:PRINT"Si la bille dispar >GE
ait apres un lancementet ne reapara
it plus, elle est entredans une
boucle et ne peut plus s'enech
apper."
3810 PRINT:PRINT"Pour la liberer ap >WH
puyez sur la touche Q."
3820 GOSUB 3910 >XJ
3830 LOCATE 11,2:PEN 2:PRINT"ROLE D >RZ
ES TOUCHES"
3840 LOCATE 10,3:PEN 3:PRINT" _____ >ZA
"
3850 LOCATE 10,6:PEN 1:PRINT"(P)lac >YX
er un aimant"
3860 LOCATE 10,8:PRINT"(S)upprimer >XQ
un aimant"
3870 LOCATE 10,10:PRINT"(A)bandonne >UK
r le jeu"
3880 LOCATE 10,12:PRINT CHR$(240);C >VN
HR$(241);CHR$(242);CHR$(243);" Dep1
acer la bille"
3890 LOCATE 10,14:PRINT"(CDPY) Lanc >XW
er la bille"
3900 LOCATE 10,16:PRINT"(Q)uitter u >WU
ne boucle"
3910 LOCATE 10,25:PEN 2:PRINT"Appuy >HH
ez sur une touche"
3920 CALL &BB06 >UH
3930 CLS:PEN 1:RETURN >RV
4000 REM *** sonorites *** >TV
4010 FOR i=5 TO 15 >LJ
4020 SOUND 2,440,1,i >NV
4030 SOUND 2,445,1,i >NB
4040 NEXT i >VD
4050 SOUND >FC
4060 SOUND 5,200,50,9 >NH
4070 RETURN >FE

```