

6]bUbW\ ZØ\ fh'\ U`VUi hca Uh]gW\ Yg F YgYfj Y!Hc_Yb!A UbU[Ya Ybh'Y]b

8 Ug'i bhYfbY\ a Yb'\ Uh'Ui ZY]bYb' \U`VUi hca Uh]gW\ Yb
DfcnYgg'i a [YghY`hzi a 'X]Y`F YgYfj Yb'ni 'j Yfk U'hYbž'X]Y`X]Y
j cb']\ a 'Ui g[Y[YVYbYb'Hc_Yb'ghØhYb"9bXY`Jbi Uf'k i fXY
YbhXYW_hž'XUgg'6]bUbW`Hc_Yb!G]W\Yf\Y]hYb'a]h
6Ybi hnYf[Y`XYfb']b`XYfgY`VYb'6f]YZhUgW\Y`[YgdY]W\Yfh'\Uh'
6`cca VYf['VYf]W\hYhž'XUgg'XUg'i bhYfbY\ a Yb
ZÅ`gW\`]W\Yfk Y]gY`G]W\Yf\Y]hYb'ZØf'ZUgh'X]Y`< Å`ZhY`gY]bYf'- (
6]bUbW!DY[!Hc_Yb'f6!Hc_YbĚ']b`Y]bYf'Y]bn][Yb
%*!A]`]UfXYb!8c`Uf!K U`Yh[YgdY]W\Yfh'\Uhž'X]Y`Ui W
?i bXYb[Y`XYf'Ybh\]Y`h'5a '&' "': YVfi Uf'[UV'6`cca VYf[
VY_Ubbhž'XUgg'6]bUbW`bi b`Y]bYb'hY]'k Y]gY`Ui hca Uh]g]YfhYb
DfcnYgg'Y]b[Yf]W\hYh'\Uhž'XYf'g]W\YfghY`hž'XUgg'X]Y`6!Hc_Yb
]a a Yf'hfUbgdUfYbh[Yg]W\Yfh`g]bX"8]Yg'k]fX'ØVYf'Y]b
GmghYa `YffY]W\hž'XUg' XUg'DfÅ[Yb`bYi Yf'7c]bg'Yfgh'ni `Àgghž
bUW\XYa `G]W\Yf\Y]hYb']b`X]Y`/ Ua d^Y`]d/



8 Ug'i bhYfbY\ a Yb'\ Uh'Ui ZY]bYb' \U`VUi hca Uh]gW\ Yb`DfcnYgg
i a [YghY`hzi a 'X]Y`F YgYfj Yb'ni 'j Yfk U'hYbž'X]Y`X]Y]j cb']\ a

Ui g[Y[YVYbYb`Hc_Yb`ghØhnYb"9bXY`Ubi Uf`k i fXY`YbhXYW_hž`XUgg
6]bUbW`Hc_Yb!G]WYf\Y]hYb`a]h`6Ybi hnYf[Y`XYfb`]b`XYfgY`VYb
6f]YZhUgWY`[YgdY]WYfh`\Uh"

6`cca VYf[`VYf]WYhYhž`XUgg`XUg`i bhYfbY`a Yb`ZÄ`gW`]WYfk Y]gY
G]WYf\Y]hYb`ZØf`ZUgh`X]Y`<Ä`ZhY`gY]bYf`- (`6]bUbW`!DY[`!Hc_Yb`fB!
Hc_YbŁ`]b`Y]bYf`Y]bn][Yb`%*!A]`]UfXYb!8c`Uf!K U`Yh`[YgdY]WYfh
\Uhž`X]Y`Ui W`?i bXYb[Y`XYf`Ybh\]Y`h"

5a`&`": YVfi Uf`[UV`6`cca VYf[`VY`Ubbhž`XUgg`6]bUbW`bi b
Y]bYb`hY]`k Y]gY`Ui hca Uh]g]YfhYb`DfcnYgg`Y]b[Yf]WYhYh`\Uhž`XYf
g]WYfghY`hž`XUgg`X]Y`6!Hc_Yb`]a a Yf`hfUbgdUfYbh`[Yg]WYfh
g]bX"8]Yg`k]fX`ØVYf`Y]b`GmghYa`YffY]WYhž`XUg`XUg`DfÄ[Yb`bYi Yf
7c]bg`Yfgh`ni`Ägghž`bUWXYa`G]WYf\Y]hYb`]b`X]Y`YbhgdFYWYbXY
6f]YZhUgWY`\]bni [YZØ[h`k i fXYb ž`ZØ[hY`g]Y`\]bni "

6]bUbW`ghY`h`bUW`U\`fYb`XYg`A]gga UbU[Ya Ybhg`Ui ZY]b
\U`VUi hca Uh]gWYg`GmghYa`ni f`, VYfk UW`i b[`XYf`FYgYfj`Yb
i a ž`X]Y`j`cb`]a`Ui g[Y[YVYbY`Hc_Yb`ni fØW`Y[Yb
\hhdg.##h`WŁ`#]`_`\$<eXI Z:

`6`cca VYf[`7fmdhc`f4 WfmdhcŁ`&&"": YVfi Uf`&\$&'

6]bUbW`6!Hc_Yb!HfUbgdUfYbn

9]b`GdFYWYf`j`cb`6]bUbW`hY]`hY`XYf`J Yf_Ui ZgghY`Y`a]hž`XUgg`X]Y
6ØfgY`X]Y`VYg]WYfhYb`J Yfa`Ò[Ybgk YfhY`]b`XYb`YhnhYb`K`cWYb`]b
XYX]n]YfhY`K U`Yhg`j YfgW`cVYb`\UVY"": Øf`YXYg`BYhmk Yf`_[]Vh`Yg
Y]bYbž`XYf`X]Y`%`%I bhYfghØhni b[`YXYg`J Yfa`Ò[Ybgk Yfhg`UbnY][h`
G]Y`ZØ[hYb`\]bni .

8]YgY`G]WYf\Y]hYb`\UVYb`]a a Yf`X]Y`6!Hc_Yb!J Yfa`Ò[Ybgk YfhY
i bgYfYf`6Ybi hnYf`[Yg]WYfh`i bX`ghUbXYb`YXYfnY]h`ni f
5i gnU`\i b[`ni f`J YfZØ[i b["K]f`nY][Yb`Yg`Yhnh`Y]bZUW`cb!WU]b
]b`XYX]n]YfhYb`K U`Yhgž`k`c`Yg`j YfV`Y]Vhž`V]g`Yg`VYbØh][h`k]fX"

8Yf`GW`f]hh`_ØbbhY`Y]bY`DF!, Vi b[`gY]bž`i a`X]Y
F YgYfj`YbhfUbgdUfYbn`]ba]hYb`Y]bYg`fY[i`Uhc`f]gWYb`J`cf[Y\Ybg

[Y [Yb`nYbhfU`]g]YfhY`6ÖfgYb`ni`Yf\Ö\Yb"

8 Ug`U`VUi hca Uh]gW`Y`GmghYa`_ÖbbhY`Yg`6]bUbW`Yfa Ö[`]W`Ybž
Y]bni [fY]ZYbžZU`g`Y]b`J cfZU``5i gk]f_i b [Yb`Ui ZX]Y`6!Hc`Yb!
F YgYfj Yb`UVYb`gc`hYž`gdY`i`]YfhY`6`cca VYf["

8 Yf`c fgW`i b [gUbU`mgh`XYg`6`cW`W`U]b!8 UhYbi bhYfbY`a Ybg
? U]_cž`7cbc`f`F mXYfž`gU[hYž`Yg`[YVY`]\bYb`]a a Yf`bcW`X]Y
A Ö[`]W`_Y]hž`XYb`GW`U`hYf`ni`VYh`h][Ybž`k Ybb`Yg`ni a
GW`]a a ghYb`_Äa Yž`VYj cf`Yf`\]bni ZØ[hY.

5 VYf`Yg`]gh`_Y]b`]XYU`Yg`j c`Ui hca Uh]gW`Yg`GmghYa ži bX`k]f
\UVYb`gW`cb`ZfØ`Yf`[YgY`Ybž`XUgg`6]bUbW`X]Y`5fh`XYg
DfÄ[YdfcnYggYgž`XYf`\]Yf`UV`Äi Zhž`gW`YW`h]j Yfk U`hYh`\Uh"

9f`_Ua`ni`XYa`GW`i ggž`XUgg`Y]b`j c`Ui hca Uh]g]YfhYf`DfcnYgg
]XYU`k ÄfYž`i a`g]W`Yfni ghY`Ybž`XUgg`gc`Yhk Ug`b]W`h`bcW`Y]ba U`
dUgg]Yfh`9g`[]Vh`a Ö[`]W`Yfk Y]gY`]a a Yf`bcW`Y]b`9`Ya Ybh`XYg
J YfhfUi Ybgž`XUg`]b`6]bUbW`i bX`gY]bY`J Yfk U`hi b [`X]YgYf
F YgYfj Yb`[YgYhnh`k YfXYb`a i gg ž`gU[hY`Yf"

⇒ a d`Ya Ybh]YfYb`j cb`n`!DfccZg

5a`%\$": YVfi Uf`j YfVYggYfhY`6]bUbW`gY]b`DfccZcZfYgYfj Yg!
GmghYa`Xi fW`X]Y`⇒ a d`Ya Ybh]Yfi b [`j cb`NYfc!`?bck`YX[Y!DfccZg
]b`cfa`j cb`n`!GB5F?g"

9g`Yfa Ö[`]W`h`6Ybi hnYfb`ni`ØVYfdfØZYbž`cV`XYf
; YgUa hbYh`hc`gU`Xc`YXYg`?cbhc`g`b]W`h`bY[Uh]j`]gh`9g`nY][h`Ui W`ž
XUgg`U`Y`6Ybi hnYfj Yfa Ö[Yb`gk YfhY`HY]`XYg`VYUbgd`fi W`hYb
; YgUa hbYh`hc [i h\UVYbg`j cb`6]bUbW`g]bX"

N`!DfccZg`g]bX`Y]bY`_fmdhc [fUZ]gW`Y`A Yh`cXYž`i a`X]Y`; Ø`h][`_Y]h
Y]bYf`5i ggU[Y`cXYf`8 UhYb`ni`VYk Y]gYbž`c`bY`X]Y`8 UhYb`cXYf
5i ggU[Y`gY`Vgh`dfY]gni [YVYb"

...

8YhU]`g

6Ygi W\Yb`G]Y`i bg`Ui Z.`_fmdhc!bYk g"Uh