

C dYbgYU`Yfk]fVh'8 \ Ufa U`@UVgž
A]hVY[fØbXYf'k]fX`ni a `bYi Yb`7HC
YfbUbbh' `A YhUj YfgY

C dYbgYUžY]bYf`XYf' [fØ» hYb`B: H!A Uf_hd`ÀhnY`k Y`hk Y]hž [UV
_Øfn`]W`X]Y', VYfbU\ a Y`j cb`8 \ Ufa U`@UVg`VY_Ubbh``8Yf
DfY]g`gc``nk]gW`Yb`%\$`i bX`%' \$`A]``cbYb`8c``Uf``]Y[Yb``5`g
9f[YVb]g`XYf`bYi Yb`J YfY]bVUfi b[`nk]gW`Yb`XYb`VY]XYb
l bhYfbY\ a Yb`k]fX`B UXUj `<c``UbXYfž`Y]b`A]hVY[fØbXYf`j cb
8 \ Ufa U`@UVgž`XYf`bYi Y`7\]YZ`HYW`bc`c[m`C ZZ]W`f`f7 HC Ě`VY]
C dYbgYU" C dYbgYUg`bYi Y`6Yk Yfhi b[`9]bYf`XYf`k Y`hk Y]h
ZØ\ fYbXYb`A Uf_hd`ÀhnY`ZØf`B: Hg`]gh`gY]h`_i fnYa `C dYbgYU
6Ygh`Àh][h`Yg`Yfk]fVh`XUg`8YZ]! ? fmdhc!K U`Yh!GhUfhi d`8 \ Ufa U
@UVg``8]Y', VYfbU\ a Y`j cb`8 \ Ufa U`@UVg`ni `Y]bYa `DfY]gž`XYf
Ui Z`%\$`V]g`%' \$`A]``cbYb`l G!8c``Uf`[YgW`Àhnh`k]fXž`YfZc`[h
_i fn`bUW`XYf`j cb`C dYbgYU`YfZc`[fY]W`GYYX!Fi bXYž`XYfYb
K Yfh`Ui Z`%' ž `A]``UfXYb`/ Ua d`^Y``]d/

C dYbgYUž'Y]bYf'XYf'[f0» hYb'B: H!A Uf_hd`ÀhnY`k Y`hk Y]hž
[UV`_0fn`]W`X]Y', VYfbU\ a Y'j cb'8\Ufa U'@UVg`VY_Ubbh"
8Yf'DfY]g'gc`nk]gW`Yb`%%\$`i bX`%' \$`A]`]cbYb'8c`Uf
`Y[Yb`"5`g`9f[YVb]g`XYf`bYi Yb`J YfY]bVUfi b[`nk]gW`Yb
XYb`VY]XYb`i bhYfbY\ a Yb`k]fX`BUXUj`<c`U`UbXYfž`Y]b
A]hVY[f0bXYf`j cb'8\Ufa U'@UVgž`XYf`bYi Y`7\]YZ
HYW`bc`c[m`C ZZ]W`f`f7 HC Ł`VY]`C dYbgYU`"

C dYbgYUg`bYi Y`6Yk Yfhi b[

9]bYf'XYf`k Y`hk Y]h`Z0\fybXYb`A Uf_hd`ÀhnY`Z0f`B: Hg`]gh`gY]h
_i fnYa`C dYbgYU`6Ygh`Àh][h`Yg`Yfk]fVh`XUg`8YZ]!`? fmdhc`!K U`Yh
GhUfhi d`8\Ufa U'@UVg`"8]Y', VYfbU\ a Y'j cb'8\Ufa U'@UVg`ni
Y]bYa`DfY]gž`XYf`Ui Z`%%\$`V]g`%' \$`A]`]cbYb`i G!8c`Uf`[YgW`Àhnh
k]fXž`YfZc`[h`_i fn`bUW`XYf`j cb`C dYbgYU`YfZc`[fY]W`GYYX!
Fi bXYž`XYfYb`K Yfhi`Ui Z`% ž`A]`]UfXYb`i G!8c`Uf`Ubgh]Y["

B UW`XYf', VYfbU\ a Y`k]fX`C dYbgYU`X]Y`5dd`j cb'8\Ufa U'@UVg
gW`]Y» Ybž`k Ug`Y]b`HYW`Wfi bW`!6Yf]W`h`U`g`i a`ghf]hhYbYb`GW`f]hh
VYnY]W`bYh`B YVYb`XYf`GW`]Y» i b[`XYf`5dd`k]fX`BUXUj
<c`U`UbXYfž`A]hVY[f0bXYf`j cb'8\Ufa U'@UVgž`XYf`bYi Y`7\]YZ
HYW`bc`c[m`C ZZ]W`f`f7 HC Ł`VY]`C dYbgYU`<c`U`UbXYf`0VYfb]a`a`h`X]Y
B UW`Zc`[Y'j cb'5`Yi`5hU`U\ž`XYf`bi b`X]Y`5i Z[UVY`U`hž`X]Y
9bhk]W`_i b[`XYg`K YV`!`i bX`B: H!²`_cgmghYa`g`XYg`A Uf_hd`UhnYg
ni`0VYfk UW`Yb"

ϕ`Y]bYa`6`c[`Dcgh`8 Ug`Yf`_`Àfh`Y]b][Y`XYf'; f0bXY`Z0f`XYb`?Ui Z
j cb'8\Ufa U'@UVg`Xi fW`XYb`Z0\fybXYb`B: H!A Uf_hd`Uhnž`gU[hY
C dYbgYU!79C`8Yj]b`:`]bnYf.

I bgYfY`HYUa`g`hY]`Yb`X]Y`J]g]cbž`XUgg`B: Hg`]b`XYb
_ca`a`YbXYb`ϕ\fyb`XYf`_i`hi`fY`Y`A]hhY`di`b`h`XYf
9]bZ0\fi b[`j cb`? fmdhc`gY]b`k YfXYb`i`i bX`X]YgY`J]g]cb
Ubb`bi`f`j Yfk]f`]W`h`k YfXYbž`k Ybb`X]Y`J Yfk YbXi b[`j cb
B: Hg`Z0f`XYb`8i fW`gW`b]hhgV0f[Yf`Y]bZUW`i`bX`Ub[YbY\ a
k]fX"

⇒ XYf'Nk]gW\YbnY]h'ghY`h'XYf'6Yf]W\h'ZYghž'XUgg'Y]b][Y'6Ybi hnYf
XYg'B: H!A Uf_hd`UhnYg'_f]h]gW\ [Y[YbØVYf'XYf'\fYf'A Y]bi b['bUW\
ØVYfa Å»]['nYbhfU`]g]YfhYb'Ghfi _hi f'j cb'CdYbgYU'[Yk cfXYb'g]bX"
5bXYfY`\UVYb'Ub[YXYi hYhž'XUgg'ZfØ\Y'6Ybi hnYf'XYf'D`UhhZcfa
a Ò[`]W\Yfk Y]gY'b]W\h'[Ybi ['j cb'XYa '5bgh]Y['XYf'6Yk Yfhi b[
j cb'CdYbgYU'dfcZ]h]Yfh'\UVYb"

K Ug'XYb_gh'Xi 'ØVYf'X]YgY'; YgW\]W\hY3'GU[Yb'G]Y'i bg'⇒fY
A Y]bi b['j]b'XYb'?ca a YbhUfYb'i bhYb"

HYfYbW'N]a k UfU'

HYfYbW'N]a k UfU']gh'Y]b'dfY]g[Y_fØbhYf'>ci fbU']ghž'5i hcf'i bX'GW\]ZhghY`Yf'Ui g
G]a VUVk Y''9f'\Uh'Ui gZØ\f']W\ØVYf'X]Y'k]fhgW\UZh]W\Yb'DfcV'Ya Y'Y]b][Yf
UZf]_Ub]gW\Yf'@ÅbXYf'gck]Y'XUfØVYf'[YgW\]YVYbž'k]Y'X][]hU'Y'K Å\fi b[Yb
5Zf]_UbYfb'Y]bYb': 'i W\hk Y['V]YhYb'_ØbbYb"

6]`XbUWk Y]g. `G\i hYfghcW_ž'D]l UVUmž`K]_]`7ca a cbgž
: Y``ck BY_c

6Y`]YVhYfY`B UWk f]Wk hYb

: U``g`8i `Yg`j YfdUggh`\Ugh

BYUf` : ci bXUh]cb`Vf]b[h`) \$`A]``cbYb`l G!8c``Uf`Ui Zž`i a
X]Y`9]bZØ\fi b[`j cb`K YV' `ni `ZØfXYfb

5a `8cbbYfghU[`[UV`X]Y`BYUf` : ci bXUh]cb`VY_Ubbhž`XUgg`XUg
Dfc`Y_h`) \$`A]``cbYb`l G!8c``Uf`j cb`ghfUhY[]gWYb`ϕj Yghc`fYb`k]Y
H\`fYY!5ffck g`7Ud]hU`ž`U%* nž`A YWkUb]ga `7Ud]hU`ž`8fU[cbZm
7Ud]hU`i bX`7]fWY`J Ybhi`fYg[YgUa`a Y`h`\Uh" BUWk`XYf
5b_ØbX][i b[`gh]Y[`XUg`bUh]j Y`?fmdhc!5ggYh`XYg`BYUf!Dfchc_c``g
i a `a Y\f`U`g`+`i ` ` `K`Y]hYf`YgYb"

f[bWh]cbfKž'gž']XŁ'oj Uf'gž'Z'g'1 'X"[Yh9`Ya Ybhg6mHU[BUa YfgŁQ\$Q'
]Z'fK"[Yh9`Ya Ybh6mXf]XŁŁ'fYhi fb/'g'1 'X"WfYUhY9`Ya YbhfgŁ/'g"]X'1
]X/'g"gfWl "\hhdg.#\cbbYWh"ZUWVcc_"bYh#bSl G#gX_"g. l ZVa `1 %/
j Yfg]cb1 j ' "&"/Z'g"dUfYbhBcXY"]bgYfh6YzcFYf'gž'Z'gŁ/'qfKcW a Ybhž
fgWf]dhfž'fZUWVcc_!'ggX_fŁŁ/

8YhU]`g

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