

K]Y`a Ub`Ui Z`F Y]gYb`Y]bYb`G]bb`ZØf < i a cf`VYk U\ fh

K Ybb`G]Y`≠fYb`G]bb`ZØf`<i a cf`VYk U\ fYbž`V`Y]VYb`G]Y`fi` \][
i bX`fYgdY`_hj`c``i bX`hfU[Yb`XUni`VY]ž`XUgg`≠fY`F`Y]gY`gc
YfghUi`b`]W`k`]fXž`k`]Y`G]Y`Yg`g]W`Yf`c`Z`h`\`UVYb`A`Ub`W`a`U``
b]W`h`c`Z`ž`UVYf`a`Ub`W`a`U``Yfk`Y]gh`g]W`X`Ug`F`Y]gYb`]b`XYf`
H`Y`cf]Y`U`g`V`Y`gg`Yf`U`g`]b`XYf`D`f`U`I`]g`"8]Yg`_`Ub`b`X`Y`f`:`U``g`Y]b`ž`
k`Y`bb`G]Y`]b`≠f`Y`a`V`]`][`Y`b`<`c`gh`Y`n]a`a`Y`f`]b`8`Y`\`]
Ub`_`ca`a`Y`b`i`b`X`j`Y`f`Z`U`i`h`Y`:`U`f`b`Y`Y`b`]b`X`Y`f`8`i`g`W`X`Y`Z]b`X`Y`b`ž`
c`X`Y`f`k`Y`bb`Y]b`ni`Z`Ä``][`Y`f`H`m`d`]b`B`U]f`c`V`]i`b`j`Y`f`\`c`\`Y`b`
j`Y`f`g`i`W`h`ž`G]Y`U`V`n`i`Y`b`_`Y`b`ž`X`U`a`]h`i`g`Y]b`:`f`Y`i`b`X`]b`≠f`Y`H`U`g`W`X`Y`
g`h`Y][`Y`b`_`Ub`b`ž`c`X`Y`f`k`Y`bb`X`Y`f`6`i`g`U`V`\`c`Y`b`g`c``G]Y`g]b`X`X`f`Y`]
G`h`i`b`X`Y`b`ni`gd`Ä`h`/`U`a`d`^`Y``]d`/`

K Ybb`G]Y`≠fYb`G]bb`ZØf`< i a cf`VYk U\ fYbž`V`Y]VYb`G]Y`fi` \][`i`b`X`
fYgdY`_hj`c``i`b`X`hfU[Yb`XUni`VY]ž`XUgg`≠fY`F`Y]gY`gc`Y`f`g`h`U`i`b`]W`
k`]f`X`ž`k`]Y`G]Y`Y`g`g]W`Y`f`\`c`Z`h`\`UVYb`

A`Ub`W`a`U``b]W`h`c`Z`ž`UVYf`a`Ub`W`a`U``Yfk`Y]gh`g]W`X`Ug`F`Y]gYb`
]b`X`Y`f`H`Y`c`f]Y`U`g`V`Y`gg`Y`f`U`g`]b`X`Y`f`D`f`U`I`]g`"

8]Yg`_`Ub`b`X`Y`f`:`U``g`Y]b`ž`k`Y`bb`G]Y`]b`≠f`Y`a`V`]`][`Y`b`<`c`gh`Y`n]a`a`Y`f`
]b`8`Y`\`]Ub`_`ca`a`Y`b`i`b`X`j`Y`f`Z`U`i`h`Y`:`U`f`b`Y`Y`b`]b`X`Y`f`8`i`g`W`X`Y`
Z]b`X`Y`b`ž`c`X`Y`f`k`Y`bb`Y]b`ni`Z`Ä``][`Y`f`H`m`d`]b`B`U]f`c`V`]i`b`j`Y`f`\`c`\`Y`b`
j`Y`f`g`i`W`h`ž`G]Y`U`V`n`i`Y`b`_`Y`b`ž`X`U`a`]h`i`g`Y]b`:`f`Y`i`b`X`]b`≠f`Y`H`U`g`W`X`Y`
g`h`Y][`Y`b`_`Ub`b`ž`c`X`Y`f`k`Y`bb`X`Y`f`6`i`g`U`V`\`c`Y`b`g`c``G]Y`g]b`X`X`f`Y`]
G`h`i`b`X`Y`b`ni`gd`Ä`h`U`i`Z`i`b`X``U`gg`Y`b`G]Y`i`a`X`f`Y`]I`\`f`a`c`f[`Y`b`g`U``Y]b`
Ub`Y]b`Y`a`_`U`a`V`c`X`g`W`U`b]g`W`Y`b`G`h`f`U»`Y`b`f`U`b`X`ni`f`Ø`W`_`"

≠`X]Y`g`Y`b`X`i`b`_`Y`b`A`c`a`Y`b`h`Y`b`]gh`Y`g`Y`W`h`ž`K`i`h`c`X`Y`f`:`f`i`g`h`f`U`h]c`b`
ni`Y`f`]Y[`Y`b`ž`UVYf`Y`g`]gh`k`]W`h][`ž`k`]X`Y`f`g`h`U`b`X`ni`Y`]gh`Y`b`"K`Y`bb`G]Y`

⇒fYb'G]bb'Øf'<i a cf'VYk U\fybž'V'Y]VYb'G]Y'fi \]['i bX
fYgdY_hj c``i bX'hfU[Yb'XUni 'VY]ž'XUgg'⇒fY'F Y]gY'gc'YfghUi b`]W
k]fXž'k]Y'G]Y'Yg'g]W\Yf\cZž'\UVYb"

I a '⇒bYb'ni '\Y'ZYbž'\UVYb'k]f'DYhYf' 'i bgYfYb'UbgÅgg][Yb
F Y]gY↑ b_]Y' 'bUW\ 'gY]bYb'Hcd!H]ddg' [YZfU[hž'k]Y'G]Y'Ui W
i bhYfk Y[g'XYb'<i a cf'VYk U\fyb' _ØbbYb"

%" '9fk UfhYb 'G]Yž'XUgg' ⇒fY 'D`ÀbY 'gW\]YZ
[Y\Yb

9g' []Vh'Y]b'Gdf]W\k cfhž'XUg'gc [Uf'XYf'5h\Y]gh]b'a]f'ni 'gW\ÀhnYb
k Y]».' A ÀbbYf'd'UbYb"; c h'UW\h" '5i ZXYf'GhfU»Y' []'h'XUg'a Y\ f
XYbb'Y" 'Gc [Uf'a]'hÅf]gW\Y'DfÅn]g]cbgd'Ubi b['_Ubb'Xi fW\Y]bYb
i bYfk UfhYhYb'I bZU``cXYf'Y]b'i bYfk UfhYhYg'9fY][b]g'j YfY]hY'h
k YfXYb"

J]Y``Y]W\h'k]fX'A UW\i 'D]W\i 'k À\fybX'XYf'%'\$'HU[Yž'X]Y'G]Y']b
DYfi 'g]bXž' [YgW\`cggYbž'cXYf'j]Y``Y]W\h'k]fX'7\ f]ghi g'XYf'9f'ØgYf
a]h'Y]bYa '6Ui [YfØgh'VYXYW_h'"A UbW\ a U`]gh'Yg'Y]bZUW\Y]b
; YgYhnž'i bX'G]Y'_ØbbYb'b]W\hg'XU[Y[Yb'hi b" 'K Ybb'G]Y'XUg
I bYfk UfhYhY'Yfk UfhYbž'k YfXYb'G]Y'k Yb][Yf'YbhhÅi gW\h'gY]bž
k Ybb'Yg'dUgg]Yfh"

8 Ug'gc``b]W\h'\Y]»Ybž'XUgg'G]Y'ØVYf\Ui dh'b]W\h'd'UbYb'cXYf
J cfg]W\hga U»bU\ a Yb'hfYZZYb'gc`hYb' ']W\k ØfXY']a a Yf'fUhYbž
Y]bY'?fUb_Ybj Yfg]W\Yfi b['UVni gW\]Y»Ybž'g]W\ 'a dZi b[Yb'ni
VYgcf[Ybž'Ui Z'⇒f'K UggYf'ni 'UW\hYb'i bX'Cb`]bY!: chc_cd]Yb'U`Yf
k]W\h][Yb'I bhYf'U[Yb'Ui Zni VYk U\fyb' 'UVYf'gY]Yb'G]Y'Y]bZUW\
XUfUi Zj cfVYfY]hYh'U`Yg'Ui ZXYb'6Ui W\ [Y\Yb"

&" '5_nYdh]YfYž'XUgg'9]b\Y]a]gW\Y'j Yfgi W\Yb
k YfXYbž'; Y`X'a]h'X]f'ni 'j YfX]YbYb

6Y]a Y\fyfYb'; Y`Y[Yb\Y]hYb'k Uf']W\YI hfYa 'Zfi ghf]Yfh'j cb'XYb
9]b\Y]a]gW\Yb" '6YgcbXYfg']b'A UffU_YgW\ 'i bX'8Y`\]k i fXY']W\
k]Y'Y]b'fY]bYg'8c``UfnY]W\Yb'VY\UbXY'h" '8]Y '@yi hY'k UfYb'ghÅbX][

U[[fYggj] žVfØ`hYb`ghÀbX][žj Yfgi WkhYb`ghÀbX][ž'a]f`Yhk Ug`ni
j Yf_Ui ZYb`cXYf`a]Wk`ni`gWkfØdZYb"

⇒Wk`ZUbX`Yg`ni h]YZgh`Àf[Yf`]Wk`žUVYf`k Ybb`]Wk`Y]bYb`GWkf]hh
ni fØW_hfYhYž`k]fX`a]f`_`Ufž`XUgg`Yg`n]Ya`_]Wk`k Yfhj`c``]ghž`g]Wk
gY`Vgh`U`g`? UbU`ZØf`XYb`_i`hi fY`Yb`5i ghUi gWk`ni`VYhfUWk`hYb`
A Y]ghYbg`V]gh`Xi`bi`f`Y]b`Hci`f]ghž`XYf`Xi`fWk`]f`@UbX`ghfY]Zh"

: Øf`G]Y`_ØbbhY`Yg`Y]bY`YVYbgj Yf`ÀbXYfbXY`F Y]gY`gY]b`/: Øf`g]Y`]gh
Yg`bi`f`Y]b`[Ubni`bcfa`U`Yf`5fVY]hghU["`5`nYdh]YfYž`XUgg`g]Y
j Yfgi Wk`Ybž`]fYb`@YVYbgi bhYf`U`h`ni`j YfX]YbYbž`i bX`XUgg`Xi
Y]bY`i`_fUh]j Y`9]bbU`a`Yei`Y`Y`V]gh"

' "`9f`Y]Wk`hYfb`G]Y`X]Y`8]ÀhVYgWk`f`Àb`_i`b[Yb

A Y]bY`: fYi`bX]b`i`bX`]Wk`k UfYb`_Øfn`]Wk`]b`XYf`bcfk Y[]gWk`Yb
K`]Xb]g]b`Y]bYf`_Y]bYb`<ØhhYž`X]Y`ØVYf`5]fVbV`[Ya`]YhYh`k`i`fXY`
l`bgYfY`]YVYbgk ØfX][Y`; Ugh[YVYf]b`UhhY`g]Wk`X]Y`A`Ø`Y
[Ya`UWk`hž`i`bg`U`i`g[Ya`UWk`hYg`h`U]`ÀbX]gWk`Yg`<Ø`bWk`Yb!7i`ffm
ni`ni`VYfY]hYbž`i`a`i`bg]b`]fYa`<U`i`g`k`]`_ca`a`Yb`ni``Y]»Yb"

8 Ug`Y]bn][Y`DfcV`Ya`3`A`Y]bY`: fYi`bX]b`]gh`J`Y[YhUf]Yf]b`i`b`X`fY]
⇒\fYb`UhhY`]Wk`g]Y`b]Y`: `Y]gWk`cXYf`]f[YbXYhk Ugž`XUg`: `Y]gWk
VYfØ`fh`UhhYž`[YgY`Ybž`UVYf`VY]`X]YgYf`; Y`Y[Yb`Y]h`b`U`a`g]Y
Y]b`dUUf`?i`[Y`b`7i`ffm`fk`cVY]`g]Y`_i`bghj`c``XUg`: `Y]gWk`k`Y[`]Y]»Ł
i`bX`Z`f`Zc`fhž`XUg`ni`YggYbž`k`Ug`Ui`Z`]fYa`HY`Yf`k`Uf"

⇒Wk`k`Uf`gi`dYf`VYY]bXfi`W_hž`XUgg`g]Y`g]Wk`[YfUXY`_]b[YgYhni`bX
[Y[YggYb`UhhYž`i`a`XYb`; Ugh[YVYf]b]Wk`h`ni`VY`Y]X][Yb`i`b
B`cfk`Y[Yb`]gh`g]Y`j`]Y`Y]Wk`h`XUa`]h`Xi`fWk`[Y`_ca`a`Ybž`XUg`9ggYb`ni
j`Yfk`Y][Yfbž`UVYf`]b`Y]bYa`k`]bn][Yb`ÀbX`]Wk`Yb`8`cfZ]b`7`]bU3
J`]Y`Y]Wk`h`b]Wk`h"

K`Ybb`G]Y`Y]bY`ghfYb[Y`8]Àh`Y]b`U`hYbž`U`VYb`G]Y`a`Ø[`]Wk`Yfk`Y]gY
DfcV`Ya`Y`a`]h`VYgh]a`a`hYb`HY]`Yb`XYf`K`Y`hž`XU`Yf`k`ØfXY`]Wk
⇒bYb`fUhYbž`ni`YfbYbž`X]Y`F`Y[Y`b`ni`c`W`Yfb"

("`C`fghØd`gY`i`bX`: Yi`Wk`hhØWk`Yf

≠W`bY\`a Y`ja a Yf`C\`fgh`DdgY`a]h`ž`k`Å\`fYbX`a Y]bY` : fYi bX]b`b]W`h
c\`bY` : Yi W`h`h`W`Yf`fY]gh" `8 Yf`YfghY`gW`Ø`hnh`a]W`j`c`f`U`Y`b
a`Ø[`]W`Yb`G]hi`Uh]cbYbž`]b`XYbYb`]W`b`c`f`a`U`Y`f`k`Y]gY`Ui`ZX]Y`Dcgh
[Y\`Yb`k`Ø`f`X`Y`" `@`Y`hnh`Y`f`Y`g`]gh`b`Ø`hnh`]W`ž`k`Yb`b`k`]f`i`b`g`c`b`Y
Z]Y»`Yb`X`Y`g`k`U`gg`Y`f`V`Y`Z]b`X`Y`b`"

:]bXYb`G]Y`Y`f`Ui`g`ž`k`U`g`≠`f`Y`A`i`gh`!`<`U`j`Y`!`5`fh]`_`Y`g]bXž`i`bX`ghY`Y`b
G]Y`g]W`Y`f`ž`X`U`gg`G]Y`ja`a`Y`f`[`i`h`V`Y`gh`Ø`W`h`g]bX`"

)`" `: fU[Yb`G]Y`g]W`ž`c`V`G]Y`Y`]Y`V`Y`f`U`b`Y`]b`Y`a
G`W`f`Y`]V`h]g`W`g]h`n`Y`b`k`Ø`f`X`Y`b`

A`U`b`W`a`U`g]bX`G]Y`a`Ø`X`Y`ž`k`Yb`b`G]Y`V`Y`]Y`b`Y`a`!`*`!`gh`Ø`b`X][`Y`b
N`k`]g`W`Y`b`g`h`c`d`d`_`Y]b`Y`b`V`Y`e`i`Y`a`Y`b`D`U`h`n`i`a`K`U`f`h`Y`b`U`V`Y`b`" `G]Y
k`Y`f`X`Y`b`i`b`[`f][`g`Y]bž`gh]b`_`Y`b`i`b`X`j`Y`f`[`U`a`a`Y`h`g`Y]b`i`b`X`U`Y`gž
k`U`g`G]Y`k`c`Y`b`ž`]gh`Y]b`V`Y`e`i`Y`a`Y`g`ó`Y`h`ž`Z]Y»`Y`b`X`Y`]Y`»`Y`g`k`U`gg`Y`f`
i`b`X`Y]b`Y`b`U`b`gh`Å`b`X][`Y`b` :`Y`f`b`g`Y`Y`f`"

≠`b`NY]h`Y`b`k`]Y`X]Y`g`Y`b`Z`f`U[`Y`]W`a`]W`ž`c`V`]W`Y`Y`V`Y`f`U`a
G`W`f`Y`]V`h]g`W`g]h`n`Y`b`k`Ø`f`X`Y`" `K`Ø`f`X`Y`]W`Y`Y`V`Y`f`U`a`b`Å`W`gh`Y`b`A`c`f`[`Y`b
i`b`X`U`a`Ø`V`Y`f`b`Å`W`gh`Y`b`i`b`X`U`a`Ø`V`Y`f`b`Å`W`gh`Y`b`U`i`Z`k`U`W`Y`b`i`b`X
a`]W`i`b`Y]b`Y`b`Ni`[`e`i`Y`h`g`W`Y`b`i`b`X`U`W`h`G`h`i`b`X`Y`b`U`b`Y]b`Y`a
G`W`f`Y`]V`h]g`W`g]h`n`Y`b`3`

8]Y`5`b`h`k`c`f`h]gh`i`Ui`g`b`U`a`g`c`g`b`Y]bž`k`U`g`a`]W`g`Y`V`gh]b`a`Y]b`Y`b
U`b[`Y`g`d`U`b`b`h`Y`gh`Y`b`NY]h`Y`b`U`i`Z`a`i`b`h`Y`f`h`"

*`" `8`Y`b`_`Y`b`G]Y`X`U`f`U`b`ž`X`U`gg`Y`g`b`i`f`NY`i`[`]gh`

8`U`g`Y]b`n][`Y`A`]gg[`Y`g`W`]W`ž`Ø`V`Y`f`X`U`g]W`a`]W`k`]f`_`]W`[`Y`Å`f`[`Y`f`h
\`U`V`Y`ž`k`U`f`ž`U`g`a`Y]b`Y`?`U`a`Y`f`U`U`i`Z`Y]b`Y`f`U`V[`Y`Y[`Y`b`Y`b`≠`g`Y`U`i`Z
X`Y`b`A`U`Y`X]j`Y`b`b]W`h`a`Y`\`f`Z`b`_`h]cb]Y`f`h`" `8]Y`U`h`Y`a`V`Y`f`U`i`V`Y`b`X`Y
@`U`b`X`g`W`U`Z`h`g`c`f`[`h`Y`Z`Ø`f`k`i`b`X`Y`f`g`W`Ø`b`Y` :`c`h`c`gž`U`V`Y`f`U`Y`gž`k`U`g]W`
\`U`h`h`Y`ž`k`U`f`Y]b`V`Y`g`W`]gg`Y`b`Y`g`?`U`a`Y`f`U`\`U`b`X`m`"

9`g`X`U`i`Y`f`h`Y]b`Y`b`HU[`X`Y`g`G`W`a`c`Y`b`gž`U`V`Y`f`]W`_`U`a`X`U`f`Ø`V`Y`f
\]b`k`Y["`G]Y`k`Y`f`X`Y`b`G`U`W`Y`b`j`Y`f`]Y`f`Y`b`c`X`Y`f`_`U`d`i`h`h`a`U`W`Y`b`c`X`Y`f`

GUWYb`ghY\`Ybž`U`gc`]gh`Yg`k`]W`h`][ž`g]W`XUfUb`ni` `Yf]bbYfbž`XUgg
Yg`bi`f`GUWYb`g]bX``K` Ybb`Xi` `XY]bYb`DUgg`i` bX`XUg`a` Y]ghY` ;` Y`X
\Ughž`_Ub`bgh`Xi` `k` Y]hYffY]gYbž`i` bX`XUg`]ghj`]Y`k`]W`h`][Yf`U`g
GUWYb`

J]Y``;` `ØW`_`°`

I`bgYf`bYi`Yg`6i`W`8`cb`h`C`ZYf`DUdUmJ.`%\$%`H]dg`Zcf`Mti`f`:`]fgh
H]a`Y`5fci`bX`h\Y`K`cf`X`]gh`U`g`HUgWYbVi`W`i`bX`Ui`Z?`]bX`Y`UV
`ž-`-`~`Yf\`À`h`]W`
"

8YhU]`g`

6Ygi`W`Yb`G]Y`i`bg`Ui`Z.`Y]bY!fY]gY`"XY`