

Ni gÀhn`jWk`k]fX`Y]bY`Yfj`c ffU[YbXY` ; Y`Y[Yb`Y]h[YVchYbž`a Y`f
ØVYf`X]Y`j YfgWk]YXYbYb`HÀh][_Y]hYb`VY]`XYf`Dc`nY]`ni`YfZU`fYb`
5a`&)"`5i [i gh`&\$&(`Z]bXYh`XYf` K Ø`ZfUh`Yf`6`Ui` `jWk`hU[`ghUhhž
XYf`Y]b`9]bV`W_]b`X]Y`gdUbbYbXY`5fVY]hgk`Y`h`XYf`Dc`nY]`gc k]Y
UbXYfYf`9]bgUhn`fÀZhY`k]Y` : Yi Yfk`Y`fž`HYWk`b]gWk`Yg`<`]Zgk`Yf`ž
8Yi`hgWk`Yg`F`chYg`?`fYi`n`i`bX`8Yi`hgWk`Y
@YVYb`gfY`hhi`b[g[YgY`gWk`UZh`V]YhYh`"J`cb`%%`I` \`f`V]g`%+`I` \`f
_ØbbYb`X]Y`6Ygi`Wk`Yf`Ui`Z`XYa` `DUf`_d`Uhn`XYg` 5b[Yf!A`Uf`_hg`]b
K Ø`ZfUh`Y]b`Vi`bhYg`F`U`a`Ybdfc[fUa`a` ` [Yb]Y»Yb`"

8Yf`9]bhf]h`ni`X]YgYa`9j`Yb`h]gh`_cghYb`cg`i`bX`Y]bY`j`cf`Yf][Y
5ba`Y`Xi`b[`]gh`b]Wk`h`b`chk`YbX][ž`k`Ug`XYb`6Ygi`Wk`VYgcb`XYfg
Y]b`UXYbX`a`UWk`h`8]Yg`V]YhYh`X]Y`A`Ò[`]Wk`_Y]hž`X]fY`_h`a`]h
9]bgUhn`fÀZhYb`ni`gd`fYWk`Yb`i`bX`Y]bYb`d`Yfg`Øb`]Wk`Yb`9]bXfi`W_
j`ca`Dc`nY]U`hU[`ni`VY`_ca`a`Ybž`k`Ug`ZØf`j`]Y`Y`Y]bY`[fc»Y`<`]ZY
VY]`XYf`9b`hgWk`Y]Xi`b[`gY]b`_Ubb`"

K]Wk`h][_Y]h`XYg`Ghi`X]Yb`Ub [YV`c`hg

8Ug`Ghi`X]i`a`VY]`XYf`Dc`nY]`B`F`K` `]gh`b]Wk`h`bi`f`ZØf`X]Y`6YhY]][hYb
j`cb`6YXYi`hi`b[ž`gcb`XYfb`Ui`Wk`ZØf`X]Y` ; YgY`gWk`UZh]bg[YgUa`h`
8i`fWk`X]Y`5i`gV]Xi`b[`†`b[Yf`A`YbgWk`Yb`ni`Dc`nY]`_ca`a`]ggUfYb
k`]fX`X]Y`_ØbZh][Y`G]Wk`Yf`Y]h]b`B`cfXf`Y]b!K`YghZU`Yb`[Ygh`f`_h`8]Y
Dc`nY]`gd]Y`h`Y]bY`nYbhf`U`Y`F`c`Y`VY]`XYf`5i`ZfYWk`hYf`U`hi`b[`j`cb
C`fX`bi`b[`i`bX`G]Wk`Yf`Y]h]i`bX`[Yk`]bb`h`Xi`fWk`[`i`h`Ui`g[YV]`XYhY
B`UWk`k`i`Wk`g`_fÀZhY`Ub`Gh`f`_Y`"

8]Y`6U`Ub`W`nk`]gWk`Yb`h`Y`c`fYh]gWk`Yf`5i`gV]Xi`b[`i`bX`d`fU`_h]gWk`Yb
9fZU`fi`b[Yb`]gh`Y]b`nYbhf`U`Yg`9`Ya`Yb`h`XYg`Ghi`X]i`a`g`8]Yg
VYfY]hYh`X]Y`5bk`À`fhYf`]a`VYghYb`A`U»Y`Ui`Z`\`fY`ni`_ØbZh][Yb
<YfUi`gZc`fXYfi`b[Yb`j`cf`/`gY]`Yg`]b`XYf`J`YfVfYWk`YbgVY`_Aa`dZi`b[ž
]b`XYf`J`Yf`_Y`f`gg]Wk`Yf`Y]h]c`XYf`]a`U`[Ya`Y]bYb
?`f]gYba`UbU[Ya`Yb`h`8]Y`J`YfV]bXi`b[`j`cb`6]Xi`b[`i`bX
d`fU`_h]gWk`Ya`9]bgUhn`U`h]g]Wk`U`g`Gk`ØggY`ni`a`9fZc`[`Yfk`]YgYb`"

8i`fWk`X]Y`Yb[Y`Ni`gUa`a`YbUfVY]h]j`cb`6Y`ØfXYb`i`bX`XYf
2`ZYb`h]Wk`_Y]h`k`]fX`Y]b`6Yk`i`gghgY]b`ZØf`X]Y`6YXYi`hi`b[`XYf
Dc`nY]UfVY]h][YgWk`UZZYb`8]Y`6Øf[Yf]b`bYb`Yf`U`hYb`b]Wk`h`bi`f`

ϕZcfa Uh]cbYb'ØVYf'X]Y'5i Z[UVYbž'gcbXYfb'Ui W'ØVYf'X]Y
7\UbWb'ZØf'X]Y'bÀW ghY'; YbYfUh]cbž'X]Y'Dc`nY]U'g'6Yfi ZgZY`X`ni
k À\`Yb"

8]YgY'9bhk]W`i b[Yb'nY][Yb'`Uf.'9]b'6Yfi ZY`VY]'XYf'Dc`nY]'gh
a Y\`f'U'g'bi f'Y]b'ϕVžYg']gh'Y]bY'6Yfi Z b[ž'X]Y'gdUbbYbXY
DYfgdY_h]j Yb'i bX'<YfUi gZcfXYfi b[Yb']b'Y]bYf'XmbUa]gWYb
I a [YVi b[`V]YhYh"8 Ug'J cfVYfY]hi b[gk YgYb'ZØf'X]Y`_ca a YbXYb
ϕ\`fY]'gh'Ui Z[fi bX'XYf'J]Y'nU\`Ub'6Yk YfVi b[Yb'i bX
ϕhYfYgg]YfhYb'j]Y'j YfgdYfWYbX"8]Y'ϕ]h]Uh]j Yž'dchYbn]Y`Yb
5bk ÀfhYfb'gck c\`ϕZcfa Uh]cbYb'U'g'Ui W'dYfgØb`WYb'?cbhU_h
ni `V]YhYbž'gh'Y]b'GWf]hh']b'X]Y'f]W h][Y`F]W hi b["

8]Y'6YXYi hi b[`XYg'Dc`nY]!Ghi X]i a g']b
B c f X f \ Y] b ! K Y g h Z U ` Y b

8 Ug'6UWY`cf!Ghi X]i a `ZØf'Dc`nY]_ca a]ggUfUbK ÀfhYf]bbYb'i bX
!UbK ÀfhYf']b' B c f X f \ Y] b ! K Y g h Z U ` Y b 'f B F K Ł'gd]Y`h'Y]bY
YbhgWY]XYbXY`F c`Y'ZØf'X]Y'5i gV]'Xi b[`ni `ØbZh][Yf
Dc`nY]VYUa hYf" `Dc`nY]VYUa hY'g]bX'b]W h'bi f'ZØf'X]Y
5i ZfYW hYf\`U`hi b[`XYf'ÖZZYb'h]WYb'G]WYf\Y]h]j YfUbhk cfh]W ž
gcbXYfb'Ui W'ZØf'X]Y'J YfVfYWYb'gdfAj Ybh]cb'i bX'X]Y
I bhYfghØhni b[`XYf'; Ya Y]bgWUZh"9]bY'Z bX]YfhY'5i gV]'Xi b[]gh
XU\Yf'i bYf'Àgg]W ži a `XYb'`_ca d'YI Yb'<YfUi gZcfXYfi b[Yb']a
Dc`nY]X]Ybgh[YfYW h'ni `k YfXYb"

ϕg[YgUa hYfk UfhYb'X]Y'5Vgc'j YbhYb'XYg'Ghi X]i a g'j YfgW]YXYbY
H\Ya Yb'k]Y'?f]a]bU`]gh]_ž'FYW h'gk]ggYbgW UZhYb'i bX
; YgY`gW UZh'g`Y\`fYž'X]Y'X]Y'gcn]U`Yb'i bX'fYW h]WYb
F U\`a YbVYX]b[i b[Yb'XYg'Dc`nY]X]YbghYg'VY`Yi W hYb"8]YgY'VfY]h
Ub[Y`Y[hY'5i gV]'Xi b[`ZØfXYfh'b]W h'bi f'XUg': UWk]ggYbž'gcbXYfb
Ui W'gcn]U`Y'?ca dYhYbnYb'k]Y'?ca a i b]_Uh]cbgZÀ\][`Y]hi bX
?cbZ]_h`Øgi b["

? Uff]YfYW UbWb'`bUW'XYa `Ghi X]i a

B UW'YfZc`[fY]W'UV[YgW'cggYbYa `Ghi X]i a `UVYb'5Vgc'j YbhYb

j YfgWk]YXYbY'9]bgh]Y[g! i bX'9bhk]W_ i b[ga Ò[]Wk_Y]hYb
]bbYf\U'V'XYf'Dc`nY]'BFK "'8]Y'Dc`nY]'V]YhYh'b]Wk'h'bi f'_Ugg]gWkY
9]bgUha Ò[]Wk_Y]hYb`ja`GhfY]ZYbX]Ybghž'gcbXYfb`Ui Wk
gdYn]U`g]YfhY'6YfY]WkY'k]Y'9fa]hh' b[gX]YbghYž'J Yf_Y\fgdc`nY]
cXYf'X]Y' l bhYfghØhni b['j cb'GcbXYf_ca a]gg]cbYb"'8]Yg'YfÖZbYh
]bhYfYggUbhY'?Uff]YfYk Y[Y' i bX'X]Y'A Ò[]Wk_Y]hž'g]Wk
_cbh]bi]Yf`]Wk`Zcfhni V]`XYb"

8]Y'Dc`nY]'BFK`gYhnh'Ui »YfXYa`ni bY\ a YbX'Ui Z'GdYn]U`g]Yfi b[ž
k Ug'XYb'6YUa hYb'X]Y'; Y`Y[Yb\Y]h[]Vhž'g]Wk`]b'VYgh]a a hYb
: UWk [YV]YhYb'k Y]hYfni V]`XYbž'Yhk U`ja`6YfY]Wk`7mYf_f]a]bU`]hÅ
cXYf'HYffcf]ga i gVY_Åa dZi b["'8 Ug'5b[YVch'Ub
: cfhV]`Xi b[ga U»bU\ a Yb'k]fX'ghYh][`Yfk Y]hYfhž'k Ug'ni f
VYfi Z]WkYb`i bX'dYfgØb`]WkYb'9bhk]W_ i b[`VY]hfÅ[h"

:]bUb n]Y`Y`l bhYfghØhni b[`i bX'5bfY]nY

8 Ug'a cbUh]WkY'; Y\U'hj cb`%&\$'9i fc'k Å\fybX'XYg'Ghi X]i a g
ghY`h'g]WkYfž'XUgg'5bk ÅfhYf]bbYb`i bX'5bk ÅfhYf`Z]bUb n]Y`Y`
G]WkYf\Y]h'k Å\fybX`]\fyf'5i gV]`Xi b[`[Yb]Y»Yb`_ÖbbYb"'8]Yg`]gh
VYgcbXYfg'k]Wk]h][ž'XU'XUg'Ghi X]i a`gck c\`]bhYbg]j Y`@Yfbd\UgYb
U`g'Ui Wk'dfU_h]gWkY'5i gV]`Xi b[`i a ZUggh"'8]Y'Dc`nY]'BFK`V]YhYh
ni XYa`j YfgWk]YXYbY`Z]bUb n]Y`Y`5bfY]nYž'k]Y'ni a`6Y]gd]Y`
: ÒfXYfdfc[fUa a Y`ZØf'K Y]hYfV]`Xi b[Yb`bUWk`XYa`Ghi X]i a "

Ni gÅhn`]Wk`VYghY\Yb`cZhiA Ò[]Wk_Y]hYb`ZØf'Gh]dYbX]Yb`cXYf
gdYn]Y`Y` : ÒfXYfi b[Ybž'X]Y`↑ b[Yb`A YbgWkYb`\Y`ZYb`_ÖbbYbž'g]Wk
ZØf`Y]bY'?Uff]YfY`VY]'XYf'Dc`nY]'ni`YbhgWkY]XYb"'8]YgY
Z]bUb n]Y`Y`b`l bhYfghØhni b[Yb`gYb_Yb`X]Y`6Uff]YfYb`ZØf`XYb
9]bgh]Y[`]b`XYb'Dc`nY]X]Ybgh'i bX'a UWkYb`X]YgY'6Yfi Zg`Ui ZVU\b
UhhfU_h]j Yf"

8 Ug'9b[U[Ya Ybh'XYf'Dc`nY]']b`XYf
2 ZZYbh`]Wk_Y]h

8]Y`J YfUbghU`hi b[Yb'k]Y`XYf` K ØZfUh\Yf'6`Ui`]Wk`hhU[
i bhYfghfY]WkYb`XUg'9b[U[Ya Ybh'XYf'Dc`nY]'BFK`i bX`UbXYfYf

9]bgUhm_fÀZhY`ZØf`HfUbgdUfYbn`i bX`6Øf[YfbÀ\Y" `Gc`WXY`9j Ybhg
Yfa`Ò[`]WXYb`Yg`XYf`2 ZZYbh]W_X]hž`g]W`ØVYf`X]Y`j YfgW]YXYbYb
HÀh][_Y]hYb`i bX`<YfUi`gZcfXYfi`b[Yb`]a`Dc`]nY]X]Ybgh`ni
]bZcfa`]YfYb`i bX`X]fY`_h`a`]h`XYb`9]bgUhm_fÀZhYb`]b`?cbhU`_h`ni
hfYhYb" `8]Yg`ZØfXYfh`XUg`J YfhfUi`Yb`nk`]gWXYb`XYf`Dc`]nY]`i bX`XYb
6Øf[Yfb`i bX`]gh`YbhgWXY]XYbX`ZØf`XYb`[Ya`Y]bgWUZh]WXYb
Ni`gUa`a`Yb`U`h"

⇒b`NY]hYbž`]b`XYbYb`XUg`J YfhfUi`Yb`]b`ØZZYbh]W!fYW`h]WXY
⇒gh]hi`h]cbYb`VYgcbXYfg`k`]W`h][`]ghž`g]bX`gc`WXY`A`U»`bU`a`Yb`i bX
XYf`dYfg`Øb`]WXY`5i`ghUi`gW`i`bYf`Àgg`]W" `8Yf`Ni`[Ub[`ni`f`Dc`]nY]
k`]fX`Yf`Y]W`hYfhž`i bX`dchYbn]Y`Y`5bk`ÀfhYf`_ØbbYb`g]W`Y]b
VYggYfYg`6`]X`j`cb`XYb`HÀh][_Y]hYb`]a`Dc`]nY]X]Ybgh`a`UWXYb"

8YhU]`g

6Ygi`WXYb`G]Y`i`bg`Ui`Z.`X]Y!`bUW`f]W`hYb`"bYh