

5i hc '[YfÅh]b'A ØbghYf'Ub'6i g\U`hYghY`Y Ui » Yf'? c bhfc`Y' 'GYWk g'J Yf`YhnhY

9]b'% , !Å\ f][Yf'Z \ f'VY]'F Y[Yb']b'A ØbghYf']b'Y]bY
A YbgWk Yb[fi ddYž'XfY]'GWk Yfj Yf`YhnhY"'Dc`nY]'Yfa]hhY`hž
_Y]b'J c fgUhn"

Æ'A ØbghYf'YfY][bYhY'g]Wk]b'XYf'BUWk h'Ui Z'GcbbhU['Y]b'gWk k YfYf
I bZU`ž'XYf'XUg '@YVYb'a Y\ fYfYf'DUggUbhYb'j YfÅbXYfhY"'8Yf
J cfZU`ž'XYf'g]Wk]b'XYf'ÆbYbghUXh'VY]'fY[YbbUggYa 'K YhhYf
UVgd]Y`hYž'ZØ\ fhY'ni 'Y]bYa 'GnYbUf]cž'XUg'j]Y'Y'5bk c\ bYf
YfgWk ØhhYfh'\Uh.'9]b'% , !Å\ f][Yf'Z \ f'a]hgY]bYa '5i hc'j cb'XYf
GhfU» Y' i bX'fi hgWk hY']b'Y]bY'; fi ddY'i bVYhY']][hf'A YbgWk Yb'Ub
Y]bYf'6i g\U`hYghY`Y"

GYWk g'DYfgcbYb'k i fXYb'VY]'X]YgYa 'VYXUi Yf']Wk Yb'J cfZU`
j Yf`Yhnhž'k cVY]'XfY]'j cb']\ bYb'Yfbgh\UZhY'J Yf`Yhni b[Yb'Yf']hhYb"
I bhYf'XYb'J Yf`YhnhYb'VYZUbX'g]Wk 'Ui Wk 'Y]b'6Y]ZU\ fYf'XYg': U\ fYfg"
Hfchn'XYf'XfUa Uh]gWk Yb'I a ghÅbXY'V']YV'XYf': U\ fYf'gY'Vgh
i bj Yf`Yhnhž'XU'gY]b': U\ fnYi ['bUWk 'XYa 'Ni gUa a Ybghc» 'a]h'XYf
A YbgWk Yb[fi ddY' [Y[Yb'Y]b'; YVÅi XY'dfU`hY"

8YhU]`g'ni a 'I bZU` \ Yf[Ub[

8]Y'Dc`nY]' \ Uh]a 'FU\ a Yb']\ fYf'9fa]h'i b[Yb'ni bÅWk gh
ZYgh[YghY`hž'XUgg'Yg'g]Wk 'i a 'Y]bYb'I bZU`c\ bY'J c fgUhn'\UbXY'h"
8Ug'VYXYi hYhž'XUgg'XYf': U\ fYf'b]Wk h'UVg]Wk h]Wk '\UbXY'hYž'k Ug
X]Y'HfU[]_ 'XYg'J cfZU`g'b]Wk h'a]'XYfh"'8]Y'ZYi Wk hY': U\ fVU\ b
gWk Y]bh'Y]bY'Yb'hgWk Y]XYbXY'F c`Y' [Ygd]Y'h'ni '\UVYbž'XU' ['Uhhy
GhfU» Yb'cZha U`g'i bj cf\ YfgY\ VUfY'F]g]_Yb'ZØf': U\ fnYi [ZØ\ fYf
i bX': i » [Åb[Yf'a]hg]Wk 'Vf]b[Yb"

J Yf`Yhni b[Ybž`X]Y`VY]`Y]bYa`gc`WkYb`l bZU`Ui ZhfYhYb`_ÖbbYbž
_ÖbbYb`j cb`DfY`i b[Yb`V]g`ni`gWk Yfk]Y[YbXYb`hfUi a Uh]gWkYb
J Yf`Yhni b[Yb`fY]WkYb"; YfUXY`VY]`Y]bYa`5i ZdFU`Ui Z`Y]bY
A YbgWkYb[fi`ddY`]gh`XUg`F]g]_c`ZØf`U`Y`6YhY`][hYb`Yi hfYa`cWk`
8]Y`[Ygi`bX`Y]h]WkYb`i bX`dgmWk`c`c[]gWkYb`i: c`[Yb`ZØf`X]Y
6YhfcZYbYb`g]bX`cZi[fUj]YfYbX`i bX`YfZcfXYfb`[Y[YVYbYbZU`g
`Ub[Zf]gh[Y`6Y`UbX`i b[Yb`gck]Y`H`YfUd]Yb"

F YU_h]cbYb`Ui Z`XYb`J cfZU`

8]Y`F YU_h]cbYb`Ui Z`X]YgYb`J cfZU`g]bX`j]Y`Z`h]["J]Y`Y`5bk`c`bYf
Äi »Yfb`]`fY`6Ygcf[b]g`b]g]Wk`h`Wk`XYf`G]WkYf`Y]h`Ub`Y]bYf`gc
ZfYe`i Yb]YfhYb`GhY`Y`k]Y`Y]bYf`6i`g`U`hYghY`Y`G][bU`Y`ni`f
J YfVYggYfi`b[`XYf`J Yf`_Y`fgg]WkYf`Y]h`_ÖbbhYb`Y]Yf`Xf]b[YbX
VYb`Öh][h`k YfXYbž`b]gVYgcbXYfY`]b`NY]hYb`i b[Øbgh][Yf
K YhhYfVYX]b[i b[Yb`5i`hca`cV]i bZ`Yž`k]Y`X]YgYfž`k YfZYb`Ui Wk
: fU[Yb`ni`f`J Yf`_Y`fgYfn]Y`i b[`Ui`Z`K]Y`g]WkYf`g]bX`f`b[Y`i: U`fYf
]a`l`a`[Ub[`a`]h]gWk`k]Yf][Yb`6YX]b[i b[Yb`3`8]YgY`i, VYf`Y[i b[Yb
a`ØggYb`]b`ni`_ØbZi][Y`8]g`i`gg]cbYb`Y]bZ]Y»Yb"

≠nk]gWkYb`_cbnYbhf]YfYb`g]Wk`X]Y`F Yhni b[g`f`Ä`Z`h`Y`Ui`Z`X]Y
J Yf`gcf[i b[`XYf`J Yf`YhnhYb`i bX`X]Y`G]WkYf`ghY`i b[ž`XUgg`U`Y`
b`ck`YbX][Yb`A`U»bU`a`Yb`Yf[f]ZYb`k`YfXYb`"B`ch`Ä`fnhY`i`b`X
GUb]h`Ä`hYf`UfVY]hYhYb`gWk`bY`ž`i`a``XYb`6YXØfZb]ggYb`XYf`J Yf`YhnhYb
[YfYWk`h`ni`k`YfXYbž`k`Ä`fYbX`X]Y`Dc`nY]`a`]h`i`fYb`9fa`]h`i`b[Yb
ZcfhZi`f`"G`Wk`bY`i]gh`_`Uf`[Yk`cfXYbž`XUgg`XYf`l`bZU`b]Wk`h`bi`f
_ÖfdYf`]WkYž`gcbXYfb`Ui`Wk`Ya`ch]cbU`Y`G`Wk`fUa`a`Yb`Y]bYf`Ä`ggh"
6Y]`XYfUfh][Yb`l`bZ`Yb`g]bX`b]Wk`h`bi`f`X]Y`6YhfcZYbYbž`gcbXYfb
Ui`Wk`XYfYb`i: Ua`j]Yb`ghUf`_`VYhfcZYb"

8]Y`j`Yf`Y`YfYbXYb`i: c`[Yb`Y]bYg`gc`WkYb`J cfZU`g]YfXYi`h]WkYb
X]Y`K`]Wk]h][_Y]hž`ghYhg]c`fg]Wk]h][`i`bX`j`YfUbhk`cfhi`b[gVYk`i`ggh`ni
ZU`fYb`"≠gVYgcbXYfY`]b`k`YhhYfUbZ`][Yb`G]h]Uh]cbYb`gc`hYb
: U`fYf`ghYhg`XUg`HYa`dc`XfcggY`b`i`bX`UbXYfY
J Yf`_Y`fghY`]bY`a`Yf`VYfØW_g]Wk]h][Yb`"K`Ä`fYbX`XYf`i: c`_i`g`Ui`Z`XYb
i`ba`]hY`VUfYb`i: c`[Yb`i]Y[hž`_`Ubb`Ui`Wk`[YZfU[h`k`YfXYbž`k`Y`WkY
A`U»bU`a`Yb`ni`f`Df`Ä`j`Yb]cb`j`cb`Ä`b`]WkYb`HfU[ÖX]Yb`Yf[f]ZYb
k`YfXYb`_ÖbbYb"

9]b`6`]W_`Ui Z`X]Y`J Yf`_Y`fg]hi Uh]c b

⇒ a Yf`_`Ài Z][Yf`g]bX`hfU[]gWXY`J Yf`_Y`fgi bZ`_`Y`]b`XYb
B UWX f]WX hYb`"8]Y`5i g`ÒgYf`_`ÒbbYb`j]Y`Z`h][`gY]b.`j cb`ØVYf`_`Ò`hYf
; YgWk]bX][`_Y]hž`bUWX`Àgg][Yf`_: U`fk Y]gY`V]g`_`b`ni`k]Xf][Yb
K YhhYfVYX]b[i b[Yb`"9]b`<Ui dhUi [Yba Yf`_`_Ubb`XU`Yf`Ui Z
dfÀj Ybhj] Y`A U» bU`a Yb`[Y`Y[h`k YfXYbž`X]Y`XUg`6Yk i ggghY]b`ZØf
g]WX YfYg`_: U`fYb`ZØfXYfb`i bX`a Ò[`]WX Yfk Y]gY`XUg`F]g]_c`ZØf
À`b`]WX Y`i bZ`_`Y`a]b]a]YfYb`"8 Yf`J cfZU`"b`A ØbghYf`_`ÒbbhY
5b`Ugg`gY]bž`i a`8]g_i gg]cbYb`ØVYf`J Yf`_Y`fgfY[Y`b`i bX
!g]WX Yf`_Y]h]a`5`[Ya Y]bYb`ni`]bhYbg]j]YfYb`

J Yf`_Y`hnhY`DYfgc bYb`i bX`XYfYb`Ni ghUb X

8]Y`j Yf`_Y`hnhYb`DYfgc bYb`i a ZUggYb`gck c`_`9fk UWX gYbY`U`g`Ui WX
Øb[YfY`A YbgWX Yb`"i bhYf`XYb`gYWX`g`J Yf`_Y`hnhYb`g]bX`nk Y]: fUi Yb
i bX`j]Yf`A ÀbbYfž`k cVY]`X]Y`GWk YfY`XYf`J Yf`_Y`hmi b[Yb`j Uf]]Yfh`
8]Y`; Ygi bX`Y]hgVY`_`ÒfXYb`]b`A ØbghYf`_`UVYb`VYghÀh][`hž`XUgg`XfY]
XYf`J Yf`_Y`hnhYb`g]WX`]b`Y]bYa`_f]h]gWX Ybž`UVYf`ghUV]`Yb`Ni ghUb X
VY]bXYb`"G]Y`k YfXYb`]b`Y]bYf`_c`_U`Yb`?`]b]_`VY`_`UbXY`hž`k c
i a ZUb[fY]WX Y`a YX]n]b]gWXY`J Yfgcf[i b[`i bX`6YcVUWX hi b[
bch`k YbX][`g]bX`"8]Y`_: Ua`]Y`XYf`j Yf`_Y`hnhYb`DYfgc bYb`]gh`ØVYf`XYb
Ni ghUb X`_`Yf`5b[Y`_`Òf][Yb`]bZcfa`]Yfh`k cfXYbž`i bX`Yg`[]Vh`Y]bY
dgmWX c`c`[]gWXY`6YhfYi i b[`ZØf`X]Y`6Yhfc ZYbYb`i bX`XYfYb
: Ua`]YbUb[Y`_`Òf][Y`

9fghY`<`]`ZY`i bX`B chZU`a U» bU`a Yb

5a`i bZU`c`fh`k i fXYb`gcZc`fh`9fghY`!<`]`ZY`!A U» bU`a Yb`Y]b[Y`Y]hYh`
F Yhi b[gX]YbghY`i bX`_: Yi Yfk Y`f`k UfYb`]bbYf`_U`V`_`ØfnYghYf`NY]h
j cf`C`fhž`i a`X]Y`J Yf`_Y`hnhYb`ni`j Yfgcf[Yb`i bX`X]Y`G]WX Yf`_Y]h`XYf
I a [YVi b[`ni`i [Yk À`f`Y]ghYb`"B chÀfnhY`i bX`GUb]hÀhYf`UfVY]hYhYbž`
i a`X]Y`GWk YfY`XYf`J Yf`_Y`hmi b[Yb`ni`VYi fhY]`Yb`i bX`Y]bY
UXÀei UhY`J Yfgcf[i b[`ni`_`Y]ghYb`"@Ui h`6Yf]WX hYb`[UV`Yg`Ui WX
Y]bY`gdc`bhUbY`A`cV]`]g]Yfi b[`j cb`DUggUbhYbž`X]Y`gcZc`fh`YfghY`<`]`ZY
`Y]ghYhYbž`VYj cf`X]Y`F Yhi b[g`f`À`Zh`Y`Y]bhfUZYb`

I fgUWXYb`i bX`J Yf_Y\fgg]WXYf\Y]h

8]Y`Dc`nY]Yfa`]hY`h`bi b`X]Y`[YbUi Yb`i fgUWXYb`XYg`i bZU`g`6Y]
fY[YbbUggYf` : U\fvU\b`_ca`a`h`Yg`\Äi`Z][`ni`i`[YZÄ`f`]WXYb
: U\fg]hi`Uh]cbYbž`]bgVYgcbXYfY`k`Ybb`X]Y`5i`hcZU`fYf`b]WXYh`Ui`Z`X]Y
j`YfÄbXYfhYb`6YX]b[`i`b[Yb`fYU[`]YfYb`" `#`XYf`J`Yf[`Ub[Yb`Y]h[`UV
Yg`]b`A`ØbghYf`VYfY]hg`Ä`b`]WXY`J`cfZÄ`Y`ž`X]Y
G]WXYf\Y]hga`U»`bU`a`Yb`i`bX`J`Yf_Y\fgg]WXYf\Y]h`b` : fU[`Y`ghY`h`Yb`"

I`a`X`YfUfh][`Yb`J`cfZÄ`Y`b`Ybh[`Y[`Ybni`k`]f`_Ybž`\Uh`X]Y`GhUXh
a`Y`fYfY`#]h]Uh]j`Yb`ni`f`J`YfVYggYfi`b[`X`Yf`J`Yf_Y\fgg]WXYf\Y]h]bg
@VYb`[`Yfi`Z`b`"8`Uni`n`Ä`\`Yb`j`YfghÄf`hY`?`cb`hfc`Y`bž
;`Yg`W`k`]b`X][`_Y]hgØVYfk`UW`i`b[`Yb`i`bX`#`Zc`fa`Uh]cbg`_Ua`d`U[`b`Yb
ZØf`5i`hcZU`fYf`ØVYf`X]Y` ;`YZU`fYb`VY]`g`W`Y`W`h`Y`a`K`Y`h`h`Y`f`"8`J`Y
Dc`nY]VY`\ØfXY`\Uh`_Øfn`]WXY`VY`_Ubbh[`Y[`YVYbž`X`Ugg
#`h`Y`bg]j`a`U»`bU`a`Yb`ni`f`J`Yf_Y\fgg]WXYf\Y]h]b`X`Yf`GhUXh
\c`W`d`f]c`f]g]Y`f`h`k`Y`f`X`Y`b`ž`i`a`i`b`ZÄ`Y`k`]Y`X]Y`g`Y`b`ni`j`Y`f`\]b`X`Y`f`b`"

2 ZZYb`h`]WXY`F`Y`U`_h]cb`Y`b`

8]Y`ÖZZYb`h`]WXY`F`Y`U`_h]cb`Ui`Z`X`Y`b`J`cfZU`k`Uf`VYfY]hg`i`ba`]hY`V`U`f
b`U`W`X`Y`a`i`b[`\ØW`_gdØfV`Uf`"J]Y`Y`6Øf[`Yf`Äi`»`Y`fh`Y`b`]f`Y`G`c`f[`Y`b
ØVYf`X]Y`G]WXYf\Y]h]Ub`6i`g`U`h`Y`ghY`h`Y`bž`]bgVYgcbXYfY`VY]
g`W`Y`W`h`Y`a`K`Y`h`h`Y`f`"C`b`]b`Y!` :`c`f`Y`b`i`b`X`g`c`n]U`Y`A`Y`X]Y`b`k`i`f`X`Y`b
[`Y`b`i`h`h`ž`i`a`i`g`c`]X`U`f]g`W`Y`B`U`W`f]W`h`Y`b`U`b`X]Y`J`Y`f`Y`h`h`Y`b`ni
g`Y`b`X`Y`b`i`b`X`i`a`i`X]g`_i`h]Y`f`Y`b`ž`k`]Y`X]Y`J`Y`f`_Y\fgg]WXYf\Y]h]b`X`Y`f`
F`Y[`]cb`j`Y`f`V`Y`gg`Y`f`h`k`Y`f`X`Y`b`_Ø`b`h`Y`"

9]b][`Y`6Øf[`Y`f`Zc`f`X`Y`f`b`Y]b`Y`i`a`[`Y`gh`U`h`i`b[`X`Y`f`<`U`h`Y`ghY`h`Y`bž`i`a
X]Y`G]WXYf\Y]h]X`Y`f` :`i`»`[`Ä`b[`Y`f`i`b`X`B`i`h`n`Y`f`ÖZZYb`h`]WXYf
J`Y`f`_Y\fga`]h`h`Y`ni`Y`f`\Ø`Y`b`"J`c`f`g`W`Ä[`Y`f`Y]WXYb`j`cb`ni`g`Ä`h`]WXYb
5`V`g`d`Y`f`fi`b[`Y`b`V]g`\]b`ni` :`f`U[`Y`b`\]bg]WXYh`]WXY`VYggYfYf
6`Y`Y`i`W`h`i`b[`i`b`X`_VYfk`UW`i`b[`"

F`Y`W`h`]WXY`?`cbg`Y`ei`Y`bn`Y`b`

8]Y`f`Y`W`h`]WXYb`?`cbg`Y`ei`Y`bn`Y`b`XYg`i`bZU`g`g]bX`bc`W`i`b`_Ufž`X`U

X]Y`Dc`]nY]`k Y]hYf\]b`Yfa`]hhY`h"8Yf': U\ fYfz`XYf`gY`Vghi` bj` Yf`Yhnh`
V`]YVz`k`]fX`j`cfUi`gg]W\h`]W\`VYZFU[`hzi`a` `gY]bY`G]W\h`XYf`8]b[`Y`
XUfni`Y[`Yb"J`cf`Ai`Z[`Y`9fa`]hhi`b[`Yb`XYi`hYb`XUfUi`Z\`]bž`XUgg`
i`bXi`fW`g]W\h[`Y`K`YhhYfVYX]b[`i`b[`Yb`i`bX`a` Ò[` `]W\Yfk`Y]gY`
ØVYf\`Ò\`hY` ;`YgW`k`]bX][`_Y]h`Y]bY`F`c`Y`[`Ygd]Y`h`\`UVYb`_`Òbb`hYb"

⇒ a` :`U`Y`Y]bYf`5b`_`U[`Y`[`Y[`Yb`XYb': U\ fYf`_`Òbb`hYb`]`a`
J`Yf`_`Y\`fg`XY`_]`hY`k`]Y`ZU\`f`Ägg][`Y`?`ØfdYfj`Yf`Yhni`b[`c`XYf`XUg`
: U\ fYb`i`bhYf`i`bg]W\YfYb`6YX]b[`i`b[`Yb`j`cf[`Yk`cfZYb`k`YfXYb"8]Y`
fYW\h`]W\Yb`J`YfZU\`fYbgk`Y]gYb`k`YfXYb`j`cb`XYf`GhUXhi`bX`XYf`
Òfh`]W\Yb`ž`gh]n`ØVYfk`UW\hzi`a` `g]W\Yfni`ghY`Ybž`XUgg`X]Y`
5b[`Y`Y[`Yb\`Y]h[`fØbX`]W\`[`YdfØZh`k`]fX"

⇒b`ZfUghfi`_`hi`f`i`b`X`J`Yf`_`Y`\`fgg]W\`Yf`\`Y]h`]b` A`Øb`ghY`f`

A`Øb`ghYf`\`Uh`]b`XYb`Y`hnhYb`J\`fYb`Y]bY`J`]Y`nU\`j`cb`6Ya`Ø\`i`b[`Yb`
i`bhYfbca`a`Ybž`i`a` `X]Y`J`Yf`_`Y`\`fgg]W\Yf\`Y]h`i`ni`j`YfVYggYfb"8]Y`
GhUXh`\`Uh`Y]b`i`a`ZUggYbXYg`J`Yf`_`Y`\`fgg]W\Yf\`Y]hgdfc[`fUa`a` `]bg`
@YVYb`[`Yfi`ZYbž`XUg`U`g`FYU`_h]cb`Ui`Z`ghY][`YbXY`i`bZU`nU\`Yb`VY`
i`b[`Øbgh][`Yb`K`YhhYfVYX]b[`i`b[`Yb`X]Yb`h"Ni` `XYb`A`U»`bU\`a`Yb`
nÅ\`Yb`X]Y`⇒b`ghU`Uh]cb`j`cb`VYggYfYb`6Y`Yi`W\hi`b[`ggmghYa`Ybž`X]Y`
l`bhYfk`Y]gi`b[`j`cb': U\ fYfb`]b`6Yni`[`Ui`Z`g]W\YfYg': U\ fYb`VY`
gW\`YW\`hYb`K`YhhYfj`Yf`\`Ä`hb]ggYbž`gck`]Y`X]Y': ØfXYfi`b[`
ÖZYb`h`]W\Yf`J`Yf`_`Y`\`fga`]hhY`"8]YgY`⇒b]h]Uh]j`Yb`g]bX`HY`]`Y]bYg`
`Ub[`Zf]gh][`Yb`D`Ub`gž`XUg`GhfU»`Yb`bYhni`]b`A`Øb`ghYf`g]W\YfYf`ni`
[`YghU`hYb"

: Øf`XYhU`]`]YfhYfY`⇒b`Zcfa`Uh]cbYb`ØVYf`A`U»`bU\`a`Yb`ni`f`
J`YfVYggYfi`b[` `XYf`J`Yf`_`Y`\`fgg]W\Yf\`Y]h`]b`A`Øb`ghYf`_`Ubb`X]Y`
GhUXhj`Yfk`U`hi`b[` `Yf`VYgi`W\h`k`YfXYb"

6Ygi W\Yb`G]Y`i bg`Ui Z.`b!U["XY