

J Yfa]gghYf', ' !>À\ f][Yf'Ui g'K U`Xg\i h.
Dc`nY]`V]hhYh'i a '<]bk Y]gY

9]b', ' !>À\ f][Yf'A Ubb'Ui g'K U`Xg\i h!H]Yb[Yb'k]fX'j Yfa]ggh'
<]bk Y]gY`V]hhY`Ub`X]Y'?f]a]bU`dc`nY]: fY]Vi f["
Gi W\U_h]cbYb`Ui ZYb"

K U`Xg\i h!H]Yb[YbžY]bY'fi \][Y`GhUXhž'k]fX'j cb`XYf`B UWX f]WX h
ØVYf`XUg`J YfgWX k]bXYb`Y]bYg', ' !>À\ f][Yb'A UbbYg`YfgW\ØhhYfh"
8Yf`GYb]cf'k]fX'gY]h'A cbhU[žXYa`%-''5i [i gh&\$&(ž] Yfa]gghž
i bX`X]Y`Dc`nY]`]gh`b]hYbg]j`Ui ZXYf`Gi W\Y`bUWX`]\a`''8]Y
VYgcf[b]gYffY[YbXY`G]h] Uh]cb`\Uh`VY]`XYb`5b[Y\Øf][Yb`i bX`XYf
; Ya Y]bgW\UZh`6Ygcf[b]g`Ui g[Y`Øgh"

8Yf`j Yfa]gghY`A Ubb`]gh`Yhk U`%ž`\$`A YhYf`[fc» žgW\`Ub`_`i bX`\Uh
Y]bY`Ui ZŽ`][Y`9fgW\Y]bi b[`a]h'k Y» Yb`[fUi Yb`< UUFYb`gck]Y
Y]bYa`k Y» Yb`C VYf`ddYbVUfh`Ni`Yhnh'k Uf`Yf`]b`Y]bYa
\Y`V`Ui Yb`?i fnUfa` \Ya Xž`VY][Yb`<cgYb`i bX`VfUi bYb`GW\i` \Yb
i bhYfk Y[gž`k Ug]b`J YfV]bXi b[`a]higY]bYf`6YgW\fy]Vi b[`VY]`XYf
Gi W\Y`j cb`[fc» Yf`6YXYi hi b[`]gh"

⇒bhYbg]j Y`Gi W\ a U» bU\ a Yb`Y]b [Y`Y]hYh

8]Y`YfghYb`Gi W\U_h]cbYb`Ua`A cbhU[UVYbX`i bX`8]YbghU[
i a ZUgghYb`a`cV]`Y`Dc`nY]hYUa`g`gck]Y` : fY]k]`][Yž`X]Y`g]W\`Ub`XYf
Gi W\Y`VYhY]`[hYb`Hfc`h`XYf`Yb[U[]YfhYb`Gi W\Y`V`YV`XYf`A Ubb
V]g`Ub[`i bUi Z]bXVUfž`k Ug`X]Y`6Ygcf[b]g`k Y]hYf`j Yfgh`f_h`''8]Y
Dc`nY]`\Uh`VYhc`bhž`XUgg`g]W\`XYf`J Yfa]gghY`a`Ø[`]W\Yfk Y]gY`]b
Y]bYf`\]`ZcgYb`@U[Y`VYZ]bXYhž`k Yg\U`V`_Y]bY`NY]h]j Yf`c`fYb
k YfXYb`XUfZ"

8]Y`Dc`nY]df`Àg]X]i a` : fY]Vi f[`Uh`Y]b` : U\bXi b[gdc`fhu`

Y]b[Yf]W\hYhž'Ui Z'XYa 'U_hi Y''Y': chc'g'XYg'J Yfa]gghYb'ni 'gY\Yb
g]bX''8]Yg'gc''XYf'^2 ZZYbh]W\ _Y]h'\Y'ZYbž'<]bk Y]gY'ni ''YZYfb'cXYf
XYb'A Ubb'j]Y''Y]W\h'gc[Uf'k]YXYfni Z]bXYb''8]Y'^2 ZZYbh]W\ _Y]h'k]fX
ni a 'A]ha UW\Yb'Ui Z[Yfi ZYb.'K Yf'Ui » Yf[Yk Ò\b']W\Y
6YcVUW\hi b[Yb'[Ya UW\h'\Uh'cXYf'XYb_hž'XYb'A Ubb'[YgY\Yb'ni
\UVYbž'_Ubb'g]W\ 'i bhYf'XYf'HY'YZcbbi a a Yf'\$+*%', , &!&, , \$'Ub
X]Y'?f]a]bU'dc`nY]: fY]Vi f['k YbXYb"

K]W\ h][_Y]h'XYf'^2 ZZYbh]W\ _Y]hgUfVY]h

^2 ZZYbh]W\ _Y]hgUfVY]h'gd]Y'h'Y]bY'YbhgW\Y]XYbXY'F c''Y']b
J Yfa]gghYbZÄ''Yb'k]Y'X]YgYa "' ðXYa 'X]Y'Dc`nY]: chc'g'i bX
ðZcfa Uh]cbYbhY]'hž'k]fX'X]Y'K U\fgW\Y]b']W\ _Y]h'Yf\Ò\hž'XUgg
'Ya UbX'Yhk Ug'g]Y\h'i bX'a Y'XYh''>XY'bcW\ 'gc'_Y]bY' ðZcfa Uh]cb
_ÒbbhY'dchYbn]Y''YbhgW\Y]XYbX'gY]bž'i a 'k c'\VY\U'hYbY
B UW\ f]W\ hYb'ØVYf'XYb', ' !Ä\ f][Yb'A Ubb'ni 'Yf\U'hYb''8]Y
5b_ØbX][i b['k i fXY'Ui W\ 'ØVYf'gcn]U'Y'A YX]Yb'k]Y'Hk]hYf'i bX
: UW\ Vcc'_j YfVfY]hYhž'i a 'Y]b[fÒ» YfYg'Di V']_i a 'ni 'YffY]W\ Yb"

ð': Ä''Yb'k]Y'X]YgYa ']'gh'X]Y'gW\ bY''Y': >Ybh]Z]n]Yfi b['i bX
J YfÒZZYbh]W\ i b['j cb' ðZcfa Uh]cbYb'j cb'YbhgW\Y]XYbXYf
6YXYi hi b["'8]Y'?ca V]bUh]cb'Ui g'Dc`nY]UfVY]h'i bX
[Ya Y]bgW\UZh]W\ Ya '9b[U[Ya Ybh'_Ubb'Y]bYb'k YgYbh]W\ Yb
I bhYfgW\]YX'a UW\Yb''5i W\ 'X]Y'5b[Y\Òf][Yb'i bX': fYi bXY'XYg
J Yfa]gghYb'\c ZZYb'Ui Z'Y]bY'VU'X][Y'F ØW\ _Y\ fž'XU'g]W\ 'X]Y
I b[Yk]gg\Y]h'VY'UghYbX'Ui Z']\f'Ya ch]cbU'Yg'K c'\VYZ]bXYb
Ui gk]f_h"

8]Y'G]hi Uh]cb'nY][h'Ui W\ž'k]Y'k]W\ h]['Yg']ghž'X]Y': fYi bXY'i bX
: Ua]'Y]ba]h['Y]XYf'Ä'hYfYf'A YbgW\Yb']a '5i [Y'ni 'VY\U'hYb''K Yf
\Uh'b]W\ h'gW\ cb'Y]ba U'Y]bYb'Ä'hYfYb'5b[Y\Òf][Yb'cXYf
B UW\ VUfb'j Yf'cfYbž'bi f'k Y]'Yf']b'XYf'I a [YVi b['j Yfk Y]'hY'i bX
b]W\ h'Ui Z'Y]ba U''Ui Zni Z]bXYb'k Uf3'8]Y'GhÄf'_Y'Y]bYf
; Ya Y]bgW\UZh'nY][h'g]W\ 'j]b'XYf': Ä\][_Y]hž'ðZcfa Uh]cbYb'ni 'hY]'Yb
i bX'g]W\ '[Y[YbgY]h]['ni 'i bhYfghØhYb"

8]Y'Dc`nY]'k]fX']\fY'Gi W\ a U» bU\ a Yb'ZcfhgYhYb'i bX
a Ò['W\ Yfk Y]gY'Ui W\ 'bYi Y'HU_h]_Yb']b'6YhfUW\h'n]Y\Ybž'i a 'XYb

j Yfa]gghYb`A Ubb`ni`Z]bXYb" `b`XYb`_ca a YbXYb`HU[Yb`_ÖbbhY
X]Y`G]hi Uh]cb`g]W`k Y]hYf`Ybhk]W_Y`bž`XcW`gc`Ub[Y`V`Y]Vh`X]Y
<c Z]bi b[ž`XUgg`Yf`k c`VY`U`hYb`ni`fØW`ni`_Y`fYb`k]fX"

; YgY`gW`UZh`]W`Yg`9b[U[Ya Ybh`]a`B`chZU`

9g`]gh`k]W`h][ž`XUgg`k]f`U`g; YgY`gW`UZh`U`_h]j`V`Y]VYbž`k Ybb
gc`W`Y: Ä`Y`Y]bhf`YhYb" `X`XYf`j`cb`i`bg`_Ubb`Yhk`Ug`hi`bž`gY]`Yg
Xi`fW`XUg`HY]`Yb`j`cb`b`Zcfa`Uh]cb`Yb`]b`gcn]U`Yb`A`YX]Yb`c`XYf
Xi`fW`XUg`A`Y`XYb`j`YfX`ÄW`h][Yf`G]W`hi`b[Yb" `b`Y]bYf`K`Y`hž`]b`XYf
Y`XY`GY`_i`bXY`nÄ`hž`_Ubb`XUg`gW`bY`Y`<`UbXY`b`Y]bYf
; Ya`Y]bgW`UZh`XYb`YbhgW`Y]XYbXYb`I`bhYfgW`]YX`a`UW`Yb"

8]Y`Gi`W`Y`bUW`j`Yfa`]gghYb`DYfgcbYb`]gh`Y]bY`YfbghY
5b[Y`Y[Yb`Y]hž`X]Y`c`Zij`]Y`Y`A`YbgW`Yb`i`bX`FYggci`fW`b
a`cV`]g]Yfh" `b`X]YgYa`i: U`k`]fX`Y]b`i`!`Ä`f][Yf`A`Ubb`Ui`g
K`U`Xg`i`h`j`Yfa`]gghž`k`Ug`X]Y`7`UbW`b`Ui`Z`Y]b`gW`bY`Yg`5i`Z]bXYb
a`Ö[`]W`Yfk`Y]gY`Y]bgW`fÄb`_h" `b`X`Yf`F`Y[Y`]gh`X]Y`NY]h
YbhgW`Y]XYbXž`i`bX`Y`Äb[Yf`Ya`UbX`j`Yfa`]ggh`k`]fXž`XYgbc
gW`k`]Yf][Yf`_Ubb`X]Y`Gi`W`Y`k`YfXYb" `8`U`Yf`]gh`Yg`k`]W`h][ž`XUgg
X]Y`2`Z]b`h]W`_Y]h`VY]`gc`W`Yb`i: Ä`Yb`a`cV`]g]Yfh`k`]fX"

æ`j`cf`]Y[YbXYb`i: U`Z]bXYb`VYfY]hg`]bhYbg]j`Y`Gi`W`a`U`bU`a`Yb
ghUhhž`X]Y`Y`XcW`V]g`Yf`c`bY`9fZc`[`V`]YVYb" `Gc`W`Y`Gi`W`U`_h]cbYb
_ÖbbYb`i`bhYfgW`]YX`]W`Y`i: cfa`Yb`UbbY`a`Ybž`j`cb`XYf`J`YfhY]i`b[
j`cb`i: i[`V`Ä`hYfb`V]g`ni`cf[Ub]g]YfhYb`Gi`W`hfi`ddg" `Dc`]W`
Ui`h`cf]h]Yg`ZfYe`i`Ybh`m`W`UVcfU`hY`k`]h`c`WU`j`c`i`bhYf`[fci`dgž
gYUfW`_UbX`fYgW`Y`hYUa`gž`UbXž`]b`gca`Y`WUgYgž`Yj`Yb`k`]h`h`Y
Y`d`c`Z`h`Y`[YbYfU`di`V`]W`hc`[U`h`Yf`]b`Zcfa`Uh]cb`UbX`Ugg]gh`]b`h`Y
gYUfW`"

I`bhYfghØ`hni`b[`Xi`fW`X]Y`i; Ya`Y]bgW`UZh`

8]Y`F`c`Y`XYf`i; Ya`Y]bgW`UZh`]gh`c`Zi`YbhgW`Y]XYbX`]b`XYfUfh][Yb
G]hi`Uh]cbYb" `X`a`Y`f`A`YbgW`Yb`]b`Zcfa`]Yfh`g]bXž`XYgbc`[fØ`Yf`g]bX
X]Y`7`UbW`bž`XUgg`<]bk`Y]gY`Y]b[Y`Ybž`X]Y`ni`f`5i`Z]bXi`b[`XYf
j`Yfa`]gghYb`DYfgcb`VY]hfU[Yb`_ÖbbYb" `8]Y`Dc`]nY]`V]hhYh`]b`XYf
F`Y[Y`X]Y`6Øf[Yf`i`a`A`]h`]Z`ž`i`a`b`Zcfa`Uh]cbYb`ni`gUa`a`Y`bž`X]Y

a Ö[`]WYfk Y]gY`YbhgWXY]XYbX`gY]b`_ÖbbhYb"

Ni XYa `[]Vh`Yg`gdYn]Y`Y`ϕ]h]Uh]j Yb`i bX`Dfc[fUa a Yž`X]Y`XUfUi Z
UVn]Y`Ybž`X]Y`Gi WXY`bUWX`j Yfa]gghYb`DYfgcbYb`ni`cdh]a]YfYb"
Dfc[fUa a Y`k]Y`X]Y` J Yfa]gghYbZU`bXi b[`XYf`Dc`]nY]`6UXYb!
K ØfhYa VYf[ž`X]Y`ØVYf`GcW]U`A YX]U`D`UhhZcfa Yb`k]Y`Hk]hhYf`i bX
: UWVcc`_`ca a i b]n]Yfh`k YfXYbž`Y`ZYbž`ϕZcfa Uh]cbYb`VfY]h`ni
ghfYi Yb`i bX`X]Y`G]W`hVUf`_Y]h`XYf`Gi WXY`ni`Yf`Ö`Yb`"8]YgY
a cXYfbYb`?ca a i b]_Uh]cbga]hhY`Yfa Ö[`]WYb`Yg`XYf`Dc`]nY]ž
gW`bY`i bX`YZZ]n]Ybh`a]h`XYf`2 ZYb`h]W`_Y]h`ni`]bhYfU[]YfYb`i bX
l dXUhYg`ØVYf`XYb`GhUhi`g`XYf`Gi WXY`VYfY]hni`ghY`Yb"

GhUh]gh]_Yb`ni`f`J Yfa]gghYbZU`bXi b[

GhUh]gh]_Yb`nY][Ybž`XUgg`X]Y`a Y]ghYb`j Yfa]gghYb`DYfgcbYb
]bbYf`U`V`XYf`YfghYb`(`,`Ghi`bXYb`[YZi`bXYb`k YfXYb`"@Ui`h`XYa
6i`bXYg`f]a]bU`Ua`h`k`i`fXYb`]a`ϕ`X`f`&\$&`]b`8Yi`hgW`U`bX`ØVYf
&\$`\$\$\$`DYfgcbYb`U`g`j Yfa]ggh[Ya Y`XYhž`j`cb`XYbYb`Y`XcW`Y`hk`U
- \$i`]bbYf`U`V`_i`fnYf`NY]h`k]YXYf`Ui`Z[YZi`bXYb`k YfXYb`_cbbhYb"
8]YgY`8`UhYb`j YfXYi`h]W`Ybž`k]Y`k]W`h][`Yg`]ghž`fY`Yj`UbhY
ϕZcfa Uh]cbYb`gW`bY`ni`j YfVfY]hYb`i bX`Yb`hgd`fYW`Yb`XY
A U»`bU`a`Yb`Y]bni`Y]hYb"

ϕ`j]Y`Yb`: Ä`Yb`g]bX`X]Y`; fØbXY`ZØf`XUg`J YfgW`k]bXYb
j]Y`gW`]W`h][`"6Y]Ä`hYfYb`A YbgW`Yb`_ÖbbYb`[Ygi`bX`Y]h]W`Y
DfcV`Ya Y`cXYf`XUg`K Y[`Ui`ZYb`Ui`Z[fi`bX`j`cb`J Yfk]ffh`Y]h`Y]bY
Fc`Y`gd]Y`Yb`"8`U`Yf`gc`h`Yb`B`UW`V`Uf`bž`fYi`bXY`i`bX`5b[Y`Öf][Y
VYgcbXYfg`gYbg]VY`Ui`Z`5bnY]W`Yb`UW`hYbž`X]Y`XUfUi`Z`]bk Y]gYb
_ÖbbhYbž`XUgg`Yhk`Ug`b]W`h`gh]a`a`h"

9g`]gh]j`cb`[fc»Yf`6YXYi`hi`b[ž`XUgg`gc`W`Y`J Yfa]gghYbZÄ`Y`b]W`h
bi`f`]b`XYb`A`YX]Yb`VY`U`bXY`h`k YfXYbž`gcbXYfb`Ui`W`Ui`Z
_ca`a`i`bU`Yf`9VYbY`8]g`_i`gg]cbgdi`b`hY`g]bX`"8i`fW`5i`Z`Äfi`b[
i`bX`GYbg]V`]g]Yfi`b[`_ÖbbYb`dchYbn]Y`Y`<]ZY`Y]ghi`b[Yb`i`bX`X]Y
FYU`_h]cbgZÄ`][`_Y]h`XYf`; Ya`Y]bgW`UZh]j`YfVYggYfh`k`YfXYb"

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