

: U\ffUXi bZU``'VY]'A]bZY`X. : `i W\h'XYg
I bZU``[Y[bYfg'V`Y]Vh'i b[Y_`Àfh

J Yf_Y\fgi bZU``Zi W\h'Ui Z: U\ffUXk Y[`]b'A]bZY`X.) \$! Å\ f][Yf
j Yf`Yhnhž'i bVY_UbbhYf'F UXZU\ fYf'ZØW\hYh''NYi [Yb'[Ygi W\h'

A]bZY`X`fchgt

⇒`XYf'B UW\h'ni a : fY]hU[ž'XYb'&' "5i [i gh'&\$&(ž`_Ua `Yg'ni
Y]bYa `i bYfZYi `]W\Yb'J cfZU``'Ui ZXYa : U\ffUXk Y[`nk]gW\Yb
A]bZY`X'i bX'?UbXY''; Y[Yb'&' . ' \$! Å\ f'gh]Y»Yb`nk Y]: U\ffUXZU\ fYf
ni gUa a Ybž'k cVY]'Y]b') \$! Å\ f][Yf'A Ubbž'XYf'F]W\hi b['?UbXY`
Z \fž'ghØfnhY'i bX'g]W\`XUVY]'Y]W\hj Yf`YhnhY''K Ug`X]Y`G]hi Uh]cb
j Yf_ca`d`n]Yfhž']gh'X]Y`HUhgUW\Yž'XUgg`XYf`UbXYfY`6YhY']][hYž
XYggYb`⇒XYbh]hÅ'hV]g`Ub[`i bVY_Ubbh]ghž'bUW\`_i fnYf'5bk YgYb\Y]h
Ub`XYf'I bZU``ghY``Y`ZØW\hYhY''9fa`UW\hY'g]W\`gW\bY``]b`F]W\hi b[
A]bZY`X`Ui g`XYa`GhUi Vž'c\bY'gY]bY'?cbhU_hXUhYb`ni
\bhYf`UggYb"

6Y]'XYf`UbgW`Y]Y»YbXYb'DfØZi b[`XYf'I a ghÅbXY`XYg'I bZU``g`ghY``hY
X]Y'Dc`nY]'ZYghž'XUgg`XYf'[YghØfnhY': U\ffUXZU\ fYfž'Yf'gY`Vgh]b
Y]bYf'dfY_ÅfYb`@U[Yž'i bhYf'5`_c`c`Y]bk]f_i b[`ghUbX"
⇒Zc`[YXYggYb`k i fXY`Y]bY`6'i hdfcVYbYbhbU\ a Y`Ub[YcfXbYhž'i a
XYb`5`_c`c`[Y\U`h'ibUW\ni k Y]gYb''8]Yg`ZØ\fhY`XUni ž'XUgg`nk Y]
GhfUZUbny][Yb'[Y[Yb']\b`Yf\cVYb`k i fXYb.`Y]bY`k Y[Yb`XYf
Hfi b_Yb\Y]h'a`J Yf_Y\fi bX`Y]bY`nk Y]hY`k Y[Yb`XYf': `i W\hj ca
I bZU``cfh"

8 Yf'[YZØW\hYhY`F UXZU\ fYf'i bX`X]Y`Gi W\Y
bUW\`NYi [Yb

8]Y'Dc`nY]'\Uh'a]hhYfk Y]'Y`X]Y`9fa]hhi b[Yb`Ui Z[Ybca a Ybž'i a

XYb`[YZØW\hYhYb`FUXZU\fyf`ni`]XYbh]Zn]YfYb" ð`X]YgYa
Ni gUa a Yb\Ub[`k YbXYb`g]W\`X]Y`6YUa hYb`Ub`X]Y`2 ZYbh]W\`Y]h
i bX`V]hYb`i a`A`h\`ZY" `NYi [Ybž`X]Y`XYb`J cfZU`VYcVUW\hYh
\UVYb`cXYf`<]bk Y]gY`ni f`X`Yb]h`h`h`XYg` : `ØW\h][Yb`[YVYb`_ÖbbYbž
g]bX`Xf]b[YbX`Ui Z[YZcfXYfhž`g]W\`VY]`XYf`Dc`]nY]]bgdY`_h]cb`K Öfh\
Ua`F\Y]b`ni`a`Y`XYb" `8]Y`?cbhU`_hXUhYb`g]bX`X]Y`HY`YZcbbi a`a`Yf
\$+&+%`#`-`&&%`\$`cXYf`X]Y`9!A U]`!5XfYggY`d]k`cYfh\`4`dc`]nY]"f`d`XY"

8]Y`I`a`gh`AbXY`XYg`J cfZU`g`k`YfZYb`Y]b][Y` :`fU[Yb`Ui`Z`Ni`a`Y]bYb
]gh`XYf`i`bZU`ZØW\h][Y` :`U\ffUXZU\fyfž`XYf`a`Ö[`]W\Yfk`Y]gY
k`]W\h][Y` ð`Zcfa`Uh]cbYb`ni`f`?`Àfi`b[`XYg`Ni`gUa`a`Ybghc`»Yg
VY]hfU[Yb`_ÖbbhYž`i`bVY`_Ubbh" `Ni`a`UbXYfYb`ghY`h`g]W\`X]Y` :`fU[Y
bUW\`XYf`J`YfUbhk`cfhi`b[`XYf`6YhY]] [hYb`]a` :`U`Y`j`cb`5`_c`c`]a
Gd]Y` :`Y]b` :`U`hc`fž`XYf`]b`XYfUfh][Yb`G]hi`Uh]cbYb`c`Zi[fUj`]YfYbXY
 :`c`[Yb`\Uh"

J Yf`_Y`fgi`bZ`Y`nk`]gW\Yb`FUXZU\fyfb`g]bX`]b`XYb`Y`hYb` :`U\fyb
Ub[Ygh]Y[Ybž`]bgVYgcbXYfY`]b`ÀbX`]W\Yb` :`YV]YhYbž`k`c
 :`U\ffUXk`Y[Y`c`Zi]`cb` :`i`»[`Àb[Yfb`i`bX`UbXYfYb
J Yf`_Y`fghY`]bY`a`Yfb`[Ybi`hnh`k`YfXYb" `8]YgY`5fh]`cb`J cfZ`Y`b
Yf\`Ö`h`b]W\h`bi`f`XUg`F`]g]_c`ZØf`X]Y`6YhY]] [hYbž`gcbXYfb`k`]fZn
Ui`W\` :`fU[Yb`ni`f`G]W\Yf\Y]h`XYf` ð`ZfUghfi`_hi`f`Ui`Z"

8Yf`J cfZU`]b`A`]bZY`X`]gh`Y]b`6Y]gd]Y`XUZØfž`k`]Y`gW\`bY`Ui`g
Y]bYa`_`Ufa`_cgYb` ,`VYf\`c`a`UbÖj`Yf`Y]bY`[YZ\`f`]W\Y`G]hi`Uh]cb
k`YfXYb`_Ubb" `9g`V`Y]Vh`UVni`k`UfhYbž`c`V`X]YgYf`J cfZU`Ui`W\
`Ub[Zf]gh][Y`?`cbgYei`YbnYb`ZØf`X]Y`J Yf`_Y`fgg]W\Yf\Y]h`]b`XYf
F`Y[]cb`\Uh"

G]W\YfY` :`U\ffUXk`Y[Y`i`bX
j`YfUbhk`cfhi`b[gj`c`Y`g`J`Yf\`U`hYb

8]Y`J cfZ`Y`XYf`Y`hYb` :`U\fy`nY][Ybž`XUgg`Y]b`g]W\YfYf`I`a`[Ub[
a`]h`XYa`FUXj`Yf`_Y`f`YggYbn]Y`]]gh" `8Uni`[Y\`Öfh`b]W\h`bi`f`Y]b
cfXbi`b[g[Ya`À»Yf`Ni`ghUbX`XYf` :`U\ffUXk`Y[Yž`gcbXYfb`Ui`W\`XUg
j`YfUbhk`cfhi`b[gj`c`Y`J`Yf\`U`hYb`XYf`FUXZU\fyf`gY`Vgh"
5`_c`c`Y]bZi`gg`ZØ\fh`b]W\h`bi`f`ni`gW\k`YfYb`I`bZ`Ybž`gcbXYfb
Ui`W\`ni`f`YW\h]W\Yb`?`cbgYei`YbnYbž`k`]Y`]a`_U`hi`Y`Yb` :`U`ni

gY\Yb"8Yf5i Zfi ZZØf'a Y\5W\hgUa _Y]hi bX[Y[YbgY]h[Y
F ØW_g]W\hbU\ a Y]gh'bc'hk YbX][Yf'XYbb'Yž]bgVYgcbXYfY]b'Y]bYf
NY]hž]b'XYf'ja a Yf'a Y\f'A YbgW\Yb'Ui Z'XUg': U\ffUX'i a ghY][Yb"

GW`Y»`]W`nY][h'XYf'J cfZU`ž`k]Y`k]W`h][`Yg`]ghž`g]W`Ub`X]Y
J Yf_Y\fgfY[Y`b`ni `U`hYb`i bX`X]Y`G]W`Yf\Y]h`U`Yf
J Yf_Y\fgfY]`bY\ a Yf`b]W`h`Ui g`XYb`5i [Yb`ni `j Yf`]YfYb"9]b`5ddY`
Ub`U`Y`F UXZU\fyfž`g]W`VYk i ggh`ni `a UW`Ybž`XUgg`YXYf`I bZU`
j Yfa Y]XVUf`]ghž`gc`hY`ja : c_i g`ghY\Yb"K Å\fybX`X]Y`Dc`nY]`]\fy
9fa]hhi b[Yb`ZcfhgYhnh`i bX`bUW`XYa `ZØW`h][Yb`F UXZU\fyf`gi W`hž
V`Y]Vh`X]Y : fU[Y`bUW`XYf`G]W`Yf\Y]h`Ui Zi bgYfYb`F UXk Y[Yb`]a
F Ui a `ghY\Yb"

J Yf\Å`hb]g`nk]gW`Yb : U\ffUXg]W`Yf\Y]h`i bX
J Yf_Y\fgi bZÅ`Yb

8Yf'J cfZU`]b`A]bZY`X`k]fZh`Y]b`@]W`h`Ui Z`X]Y`U`[Ya`Y]bY`G]W`Yf\Y]h
ja : U\ffUXj Yf_Y\f`]b`8Yi hgW`UbX" @Ui h`Y]bYf`GhUh]gh]_`XYg
GhUh]gh]gW`Yb`6i bXYgUa hYg`gh]Y[`X]Y`5bnU\`XYf`j Yfi b[`ØW`hYb
F UXZU\fyf`]b`XYb`YhnhYb`U\fyb`VYa Yf_Yb`gk Yfh`Ub" `a `U\f`&\$&&
k i fXYb`]b`8Yi hgW`UbX`Yhk U', "\$\$\$: U\ffUXi bZÅ`Y`fy[]ghf]Yfhž
k Ug`Y]bYb`5bgh]Y[`i a `a Y\f`U`g`) i `ja `J Yf[`Y]W`ni a `J cf`U\f
XUfghY`h"J]Y`Y`X]YgYf`I bZÅ`Y`g]bX`Ui Z`5V`Yb_i b[Ybž
i bj cfg]W`h][Y : U\fk Y]gY`cXYf`gc[Uf`Ui Z`5`_c`c`_cbgi a
ni fØW`ni ZØ\fybž`k Ug`Ui W`ja : U`XYg`j YfghØfnhYb : U\ffUXZU\fyfg
]b`A]bZY`X`XYf : U`]gh`

9]bZØggY`Ui Z`X]Y`G]W`Yf\Y]h`j cb`F UXZU\fyfb

8]Y`J Yf_Y\fgg]W`Yf\Y]h`ZØf`F UXZU\fyf`\Åb[hij`cb`j YfgW`]YXYbYb
: U_hcfYb`UVž`k]Y`Yhk U`[i h`Ui g[YVUi hYb`F UXk Y[Ybž`XYf
J Yf_Y\fgYfn]Y\i b[`gck]Y`XYf`U`[Ya`Y]bYb`J Yf_Y\fg_i `hi f" `b
j]Y`Yb`GhÅXhYb`[]Vh`Yg`j Yfa Y\fh`b]h]Uh]j Ybž`X]Y`XUfUi Z`UVn]Y`Ybž
X]Y`G]W`Yf\Y]h`j cb`F UXZU\fyfb`ni `Yf\Ø\Yb"8Uni`[Y\ØfYb`XYf
5i gVUi `j cb`F UXk Y[Yb`i bX`J Yf_Y\fgncbYb`gck]Y
5i Z_Åfi b[gdfc[fUa`a Y`ØVYf`5`_c`c`Ua`GhYi Yf"

F Y[Y`i b[Yb`i bX` ; YgYhnY`]a`XYi hgWk Yb
GhfU» Ybj Yf_Y`f

⇒ 8Yi hgWk`UbX`[Y`hYb`ghfYb[Y`FY[Y`b`ZØf`F UXZU`fYfž
]bgVYgcbXYfY`]b`6Yni [`Ui Z`5`_c`c`" @Ui h`z`&(U`XYg
GhfU» Ybj Yf_Y`f fg[YgYhnYg`fGhJ ; Ł`XØfZYb`F UXZU`fYf`a`]h`Y]bYa
6`i hU`_c`c`[Y`U`h`j`cb`ØVYf`\$ž%*`Dfca`]`Y`b]Wk`h`ZU`fYbž`XU`X]Yg
U`g`GhfUZhUh`[Yk`YfhYh`k`]fX`"6Y`]Y]bYa` `l`bZU`"i`bhYf`5`_c`c`Y]bZi`gg
g]bX`X]Y`fYWk`h]Wk`Yb`?cbgYei`YbnYb`[fUj`]YfYbXž`k`]Y`]a
j`cf`]Y[YbXYb` : U`ž`k`c`[`Y]Wk``a` Y`fYfY`GhfUZbnY][Yb`[Y[Yb`X]Y
6YhY`][hYb`YfghUhhYh`k`i`fXYb`"

F c`Y`XYf`Dc`]nY`]VY`]J Yf_Y`f gi bZ`A`Yb

⇒ `FU`a`Yb`XYf`l`bZU`"Ui`ZbU`a`Y`U`VYb`X]Y`Øfh]Wk`Yb`6Y`ØfXYb
X]Y`5i`Z[UVYž`U`Y`fY`Yj`UbhYb`⇒Zcfa`Uh]cbYb`ni`gUa`a`Y`bž`i`a`X]Y
l`a`gh`AbXY`XYg`J`cfZU`"g`ni`_`_`ÄfYb`i`bX`[YY][bYhY`fYWk`h]Wk`Y
GWk`f]hhY`Y]bni`Y]hYb`"8]Y`6Y`ØfXYb`UddY`"YfYb`fY[Y`a`Ä»][`Ub`X]Y
6Yj`Ö`_Yfi`b[ž`NYi`[Yb`]\bk`Y]gY`ni``a`Y`XYbž`i`a` :`ØWk`h][Y`ni`f
J`YfUbhk`cfhi`b[`ni`n]Y`Yb`"8]Yg`i`bhYfghfY]Wk`h`X]Y`K`]Wk`h][`_Y]h]j`cb
²`ZYb`h]Wk`_Y]hi`bX` ; Ya`Y]bgWk`UZh]b`XYf`5i`Z`_`Äfi`b[`i`bX
Df`Äj`Ybh]cb`j`cb`J`Yf_Y`f gi`bZ`A`Yb`"

GYbXYf`i`bX`Df`Äj`Yb`h]cb

8]Y`6YXYi`hi`b[`j`cb`Df`Äj`Yb`h]cbga`U»`bU`a`Yb`]gh]b`XYb`"YhnhYb
»\fYb`ni`bY`a`YbX`]b`XYb` : c`_i`g`[YfØW`_h`"C`f[Ub]gUh]cbYb`k`]Y`X]Y
8Yi`hgWk`Y`J`Yf_Y`f`fgk`UWk`h`i`bX`X]Y`5C`?`V]YhYb`Dfc`[fUa`a`Y`ni`f
F`UXZU`fYfg]Wk`Yf`Y]h`Ubž`X]Y`XUfUi`Z`UVn]Y`Ybž`XUg`6Yk`i`gghgY]b`ZØf
X]Y` ; YZU`fYb`]a`GhfU»`Ybj`Yf_Y`f`ni`gWk`ÄfZYb`i`bX`X]Y
U`" [Ya`Y]bYb`G]Wk`Yf`Y]hgghUbXUfXg`ni`j`YfVYggYfb`"GWk`i`i`b[Yb
i`bX`⇒Zcfa`Uh]cbg`_Ua`dU[bYb`g]bX`Yb`hgWk`Y]XYbXž`i`a`F`UXZU`fYfb
G]Wk`Yf`Y]h`i`bX`GY`VghVYk`i`gghgY]b`]a`J`Yf_Y`f`ni`j`Yf`Y]Yb`"

6Ygi WYb'GjY'i bg'Ui Z'XjY!bUWf]W hYb"bYh