

7 \ f]ghcd \ '8 Ui a . '9]b '@YVYb 'ja 'NY]WXYb  
XYg'? Àa dZYf[ Y]ghYg'i bX'XYf'F ØW\_Y \ f

8 Yf' [ YVØfh][ Y'Nk ]W\_Ui Yf': i » VU``hfU]bYf'7 \ f]ghcd \ '8 Ui a ' ]gh  
ja '5`hYf'j cb'+\$`J \ fYb' bUW`Ub[ Ya '?fYVg`Y]XYb'[ YghcfVYb"

8 Yf'j YfghcfVYbY'7 \ f]ghcd \ '8 Ui a ' \ ]bhYf'Àggh'Y]bY'Y]bXfi W\_gj c``Y  
Gdi f'ja 'XYi hgWXYb': i » VU``"5a 'GUa ghU[ 'j YfghUfV'XYf'Y \ Ya U`][ Y  
HfU]bYf'ja '5`hYf'j cb'+\$`J \ fYb' ]b'? Òbž'bUWXYa 'Yf'Ub[ Y'[ Y[ Yb  
XYb'?fYVg'[ Y\_Àa dZi' \ UhhY''8]Y'hfUi f][ Y'B UW f]W h'k i fXY'j cb  
gY]bYf': Ua ]]Y'VY\_Ubbh[ Y[ YVYbž'X]Y'VYhc bYž'XUgg'Yf' Zf]YX`]W  
ja '?fY]gY'gY]bYf': Ua ]]Y'j YfghcfVYb 'gY]'8 Ui a 'k Uf'b]W h'bi f'Y]b  
'Y]XYbgW UZi]WXYf': i » VU``hfU]bYfž'gcbXYfb'Ui W`Y]bY'gW`Y'fbXY  
DYfgØb`]W\_Y]hž'X]Y'j ]Y'Y'< Ø \ Yb'i bX'H]YZYb'Yf'YVh' \ Uh"

I fgd fØb[ `]W`Ui g'Nk ]W\_Ui `ghUa a YbXž'k Uf'8 Ui a 'j cb'\_Y]b'Ui Z  
XUni `Yfnc[ Ybž'g]W`XYb'< YfUi gZcfXYfi b[ Yb'XYg'@YVYbg'ni  
ghY`Yb"GWcb' ]b'gY]bYf'? ]bX \ Y]h'k Uf'Yf'Y]b'? Àa dZYf''5`g  
gW a `AW h][ Yf'ž b[ Y'ghY`hY'Yf'g]W`A ]hgW Ø`Yfb'Ybh[ Y[ Ybž'X]Y'] \ a  
\_ØfdYf'W`ØVYf'Y[ Yb'k UfYb''8]YgYf'? Ua dZ[ Y]gh'dfÀ[ hY'gY]b  
gd`hYfYg'@YVYb'i bX'k Uf'VYgcbXYfg'g]W hVUf' ]b'gY]bYa 'I a [ Ub[  
a ]h'XYf'gW k YfYb'? fUb\_ \ Y]h'' 8 Yf'?fYVg' \ Uh'g]W`XYb'ZU`gWXYb  
'? ØfdYf'Ui g[ Ygi W h ž'k Uf'Y]bYf'gY]bYf'Y]bXf]b[ `]WXYb'G`hYž'X]Y'Yf  
]b'XYb'`YhYb'`A cbUhYb'cZi'k ]YXYf' \ c`hY''8 Ui a 'k c`hY'XUa ]h'b]W h  
bi f'gY]bYb'Y][ YbYb'? Ua dZ'Xc\_i a Ybh]YfYbž'gcbXYfb'Ui W  
UbXYfYb'`A YbgWYb'`A i h'a UWXYb"

8 ]Y'? Uff]YfY'Y]bYg'Y]bn][ Ufh][ Yb'HfU]bYfg

8 ]Y': i » VU``\_Uff]YfY'j cb'7 \ f]ghcd \ '8 Ui a 'VY[ Ubb'ja  
VYgW Ui `]WXYb'CY'gb]hni]a '9fn[ YV]f[ Y''B UW`XYa 'I a ni [ `ni  
gY]bYf'`A i hYf' ]b'8 i ]gVi f[ `VY[ Y[ bYhY'Yf'gWcb'ZfØ \ XYf'F ]j U']h`h

ja`gdcfh]WYb`K`YhhVYk`YfV`"GY]bY`HfU]bYf`Ui`ZVU`b`ghUfhYhY`Yf`  
VY]a`%":`7`?`Ò`b`ž`k`c`Yf`gW`bY`"ZØf`5i`ZgY`Yb`gcf[`hY`"A`]h`gY]bYf`  
\_Äa`dZYf]gWYb`5f`h`gY`"hY`Yf`Y]bY`<YfUi`gZcfXYfi`b[`ZØf`X]Y`[`fc»`Yb`  
7`i`Vg`XUfž`]bgVYgcbXYfY`ZØf`XYb`:`7`6UmYfb`i`bX`XYggYb`A`UbU[`Yf`  
l`]<cYbY»`"Hfc`m`gY]bYf`l`bVY`\_Ubb`h`Y]h`gW`UZhY`Yf`Ygž`6UmYfb`  
A`ØbWYb`c`fXYbh]W`]bg`GW`k`]hnyb`ni`Vf]b[`Yb`i`bX`VY]bU`Y`ni`  
ghØfnYb`"

GY]bY`?`Uff]fY`k`Uf`YXcW`b]W`h`bi`f`j`cb`9fZc`[`Yb`[`YdfÄ[`h`"GY]b`  
XfUa`Uh]gWYf`Ghi`fn`bUW`X`Yf`YfghYb`6i`bXYg`][`U!A`Y]ghYfgW`UZh`  
a`]h`XYa`J`Z6`Ghi`h[`Ufh`%-`-&`ghY`h`U`g`A`U`ba`U`ZØf`X]Y`  
l`bVYfYWYbVUf`\_Y]h`XYg`i`»`VU`"g`"9]b`K`YW`gY`ZY`Yf`\_c`ghYhY`XUg`  
HYUa`X]Y`E`i`U`]Z`\_Uh]cb`ZØf`X]Y`VY[`Y`fhY`7`Ua`d]cbg`@YU[`i`Y`  
8Ui`a`a`UW`hY`]b`gY]bYf`@Ui`ZVU`b`Ui`W`Xi`fW`X]Y`?`c`\_U]b!5ZZÄfY`  
GW`U[`nY]`Ybž`X]Y`]a`X]Y`7`UbW`Ui`Z`XYb`DcghYb`XYg`  
6i`bXYghfU]bYfg`j`Yfk`Y`fhY`"8cW`k`]Y`]a`i`i`»`VU`"ØV`]W`ž`]gh`Yg`  
YbhgWY]XYbXž`k`]Y`a`Ub`bUW`Y]bYa`FØW`gW`U[`ni`fØW`\_ca`a`h`  
l`bX`XUg`hUhYf`8Ui`a`c`hY`H]hY`]b`2`ghYffY]W`i`bX`XYf`HØf`\_Y`  
i`bX`ZØ`fhY`XYb`%":`7`?`Ò`b`ni`fØW`]b`X]Y`6i`bXYg`][`U`"

## DYfgØb`]WY`K`UfhYnY]hYb`i`bX`F`ØW`\_`Y`f`

«a`<YfVgh`&\$&&`VY[`Ubb`7`f]ghcd`8Ui`a`gY]bYb`?`Ua`dZ[`Y[`Yb`  
XYb`?`fYVg`"8Yf`6Y[`]bb`Y]bYf`NY]hž`X]Y`ZØf`]b`gck`c`"gc`]YfYbX`  
U`g`Ui`W`Ui`ZVUi`YbX`k`Uf`"Ni`6Y[`]bb`nc[`Yf`g]W`Ui`g`XYf`  
2`ZYbh]W`\_Y]h`ni`fØW`"8cW`gW`cb`VU`X`k`]YXYf`hfUhYf`]b`  
HU`\_g`ck`g`Ui`Zi`bX`[`UV`b`hYfj`]Yk`gž`i`a`gY]bY`@YVYbgk`Y]gY`i`bX`  
gY]bYb`?`Ua`dZ[`Y]gh`ni`hY]`Yb`"9f`k`c`"hY`Y]b`NY]WYb`gYhnYb`9g`]gh`  
b]W`h`YbhgWY]XYbXž`k`]Y`c`Zha`Ub`b]bZÄ`h`"J`]Y`a`Y`f`]gh`Yg`k`]W`h[`ž`  
XUgg`a`Ub`]a`a`Yf`k`]YXYf`Ui`ZghY`h`"

8Ui`a`g`FØW`\_`Y`f`]b`X]Y`2`ZYbh]W`\_Y]h`ghY`"hY`Ui`W`Y]bY`FØW`\_`Y`f`  
ni`gY]bYb`K`i`fnY`b`XUf`X]Y`@Y]XYbgW`UZh`ZØf`XYb`i`i`»`VU`"ž`X]Y`b]Y`  
Yf`cgWYb`]ghž`k`Uf`YVYbgc`ghUf`\_`k`]Y`gY]b`YbhgW`c`ggYbYf`K`]`Yž`  
X]Y`<YfUi`gZcfXYfi`b[`Yb`XYg`@YVYbg`Ubni`bY`a`Yb`"GY]b`  
J`Yfa`ÄW`hb]g`U`g`HfU]bYf`k`]fX`]b`XYb`?`ØdZYb`j`cb`i`i`»`VU`"ZUbg`i`bX`  
Gd]Y`Yfb`k`Y]hYf`YVYbž`k`Ä`fYbX`gY]b`i`bYfa`ØX`]W`Yf`?`Ua`dZ[`Y[`Yb`  
X]Y`?`fUb`\_`Y]h`nY][`hž`XUgg`a`Ub`b]Ya`U`g`Ui`Z[`YVYb`gc`"hY`"

## 9]b '[ Yk U`h][ Yg'9fVY

8]Y`B U\W f]W\h j cb`7\ f]ghcd\`8Ui a`g`HcX`\]bhYf`Àggh`Y]bY`[ fc»Y  
@ØW\_Y`]b`XYf`i`i`»VU`k`Y`h`"GY]b`i`bYfgW\ØhhYf`]W\Yf`?Ua`dZ`k`fX  
k`Y]hYf\]b`UbXYfY`]bgd]f]YfYb`i`bX`"Àggh`X]Y`i`fU[`Y`c`ZYbž`k`]Y`ghUf\_  
X]Y`J`YfV]bXi`b[`nk`]gW\Yb`A`YbgW\`]W\`\_Y]h`i`bX`Gdcfh`gY]b`\_Ubb"  
8Ui a`i`\Uh[`YnY][`hž`XUgg`Yg`b]W\h`bi`f`X]Y`9fZc`[`Y`g]bXž`X]Y`i`bg  
dfÀ[`Ybž`gcbXYfb`Ui`W\`X]Y`5fh`i`bX`K`Y]gYž`k`]Y`k`]f`a`]h  
F`ØW`gW\`À[`Yb`i`a`[`Y`Yb`i`bX`i`bg`k`]YXYf`Ui`Zf]W\hYb`"8]YgY  
@Y`\_h]cbYb`Ui`g`gY]bYa`i`@YVYb`k`YfXYb`k`Y]hYf[`Y[`YVYbž`  
[`YbYfUh]cbYbØVYf[`fY]ZYbX`i`Y]b`V`Y]VYbXYg`9fVY`]a`i`i`»VU`i`bX  
XUfØVYf`\]bUi`g"

⇒a`i`@Ui`ZY`gY]bYf`?Uff]YfY`\Uh`7\ f]ghcd\`8Ui a`i`b]W\h`bi`f`X]Y  
<Ø\Ybž`gcbXYfb`Ui`W\`X]Y`H]YZYb`XYg`i`i`»VU`g`Yf`YVh`"8]YgY  
K`]XYfghUbXgZÀ\][`\_Y]h`nY][`hY`g]W\`b]W\h`bi`f`]b`gY]bYa`i`gdcfh]W\Yb  
K`YfXY[`Ub[`ž`gcbXYfb`Ui`W\`b`gY]bYa`i`6Y]hfU[`ni`f`?i`hi`f`XYg  
:i`»VU`g`"8Ui a`i`k`Uf`VY`\_Ubbh`ZØf`gY]bY`Y]XYbgW\UZh]W\Yb  
5bg]W\hYb`ØVYf`XUg`Gd]Y`ž`X]Y`Yf`c`Zh]b`gY]bYb`b`hYfj`]Yk`g`i`bX  
ØZYb]h]W\Yb`5i`Zh]hYb`ni`a`i`5i`gXfi`W`\_VfUW\hY"

GY]b`9]bZi`gg`Ui`Z`↑`b[`Y`HfU]bYf`i`bX`Gd]Y`Yf`k`Uf`Yf\YV`]W\`"J`]Y`Y  
gU\Yb`]b`i`a`i`Y]b`J`c`fV]`Xž`XUg`b]W\h`bi`f`Xi`fW\`gdcfh]W\Y`9fZc`[`Y  
[`ÀbnhYž`gcbXYfb`Ui`W\`Xi`fW\`gY]bYb`i`bYfa`ØX`]W\Yb`?Ua`dZ[`Y]gh  
i`bX`gY]bY`i`À\][`\_Y]hž`gY`Vgh`X]Y`k`]Xf][`ghYb`i`a`gh`AbXY`ni  
ØVYfk`]bXYb`"8]Yg`VfUW\hY`]a`i`F`YgdY`\_hgck`c`\`Ui`Z`U`g`Ui`W  
Ui`»Yf`U`V`XYg`D`UhnYg`Y]b"

## 8]Y`9b hk ]W`\_i`b[`XYf`HfU]bYf`\_Uff]YfY

8Ui a`g`@Ui`Z/U\`b`VY[`Ubb`]b`XYb`gd`ÀhYb`%-,`\$Yf`X\`fYbž`U`g`Yf`U`g  
HfU]bYf`VY]a`i`%":`7`?`Ø`b`Ub`Y`i`YfhY`"9f`nY][`hY`gc`Zc`fh`gY]bY  
Ui`»Yf[`Yk`Ø\`b`]W\Y`6Y[`UVi`b[`ž`X]Y`A`UbbgW\UZh`ni`a`chj`]YfYb`i`bX  
g]Y`ni`<`ØW\`ghY]ghi`b[`Yb`ni`Vf]b[`Yb`"i`bhYf`gY]bYf`@Y]hi`b[`ZUbX  
XYf`J`YfY]b`ni`U`hYf`Gh`Àf`\_Y`ni`fØW`\_i`bX`\_cbbhY`g]W\`]b`XYf  
6i`bXYg`][`U`Y`hUV`]YfYb`"8]YgY`9fZc`[`Y`ZØ\`fhYb`XUni`ž`XUgg`8Ui a  
VU`X`U`g`Y]bYf`XYf`VYghYb`HfU]bYf`]a`i`XYi`hgW\Yb`i`i`»VU`i`[`U`h"

B UWÅ 'gY]bYa 'YfZc`[ fY]WÅYb'9b[ U[ Ya Ybh]b' ? Ò`b`ØVYfbU\ a 'Yf  
j YfgWÅ ]YXYbY`HfU]bYfdcg]h]cbYb`]b`8Yi hgWÅ`UbXž`² ghYffY]WÅ`i bX  
XYf`HØf\_Y]"6YgcbXYfg`VYa Yf\_Ybgk Yfh]gh`gY]bY`NY]h`VY]"6UmYf`\$(  
@Yj Yf\_i gYbž`k c`Yf`XUg`HYUa` ]b`X]Y`7\Ua`d]cbg`@YU[ i Y`ZØ\fhY"  
GY]bY` : Å\][ \_Y]hž`Gd]Y`Yf`ni`Ybhk`]W\_Y`b`i bX`ni`Zcfa`Ybž`a UWÅ hY  
]\b`ni`Y]bYa` ]`YZFU[ hYb`HfU]bYf`"Hfchn`gY]bYf`gd`ÅhYfYb  
?cbhfcj YfgYb` ]b`\_i`gj`Y`XYf`?c\_U]b!5ZZÅfY` ]`\_cbbhY`Yf`b]Y`X]Y  
6Yk`i bXYfi`b[ `XYf` : Ubg`i bX` : UWÅ`Yi hY`[ Ubn`j`Yf`]YfYbž`X]Y`gY]bY  
gdcfh]WÅY`9! dYfh]gY`i bX`gY]bYb`i bYfgWÅ`ØhhYf`]WÅYb` ; Y]gh  
gWÅ`ÅhnYb"

9]b`dYfgØb`]WÅYf`6`]W\_`Ui`Z`7`f]ghcd`\`8Ui`a`g  
@YVYb

⊕`XYf`VfY]hYb`²`ZZYbh]WÅ\_Y]h`k`i`fXY`7`f]ghcd`\`8Ui`a`c`Zh`U`g  
dc`Uf]g]YfYbXY` : ][`i`f`k`U`f[`Ybca`a`Yb`"GY]bY`i`b`\_cbj`Ybh]cbU`]h`Åhž  
gY]b`i`bj`YfV`Øa`hYf`Gh`]i`bX`gY]bY`X]fY`\_hY`5fh`hfYbb`hYb`X]Y  
A`Y]bi`b[`Yb`"HfchnXYa`V`]YV`Yf`Y]bY`GWÅ`ØggY`Z][`i`f`]a`X`Yi`hgWÅYb  
: i`»`VU`"ž`X]Y`]a`a`Yf`k`]YXYf`]b`XYf`@U[`Y`k`Ufž`b`UWÅ`F`ØW\_gWÅ`À[`Yb  
ni`fØW\_ni`\_ca`a`Yb`"8]Yg`gd]Y[`Y`hY`g]WÅ`Ui`WÅ`]b`gY]bYa  
Df]j`Uh`YVYb`k`]XYf` `Yf`\_Åa`d`ZhY`b]WÅ`hibi`f`Ui`Z`XYa`D`Uhnž`gcbXYfb  
Ui`WÅ`a`]h`dYfgØb`]WÅYb`<`YfUi`gZc`fXYfi`b[`Yb"

GY]b`HU`Ybh`ZØf`X]Y`GY`Vgha`ch]j`Uh]cbž`[`YdUUfh`a`]hY]bYa  
Ui`g[`Ydf`À[`hYb`G]bb`ZØf`<`i`a`cfž`a`UWÅ`hY`]b`ni`Y]bYf`Y]bn][`Ufh][`Yb  
DYfgØb`]WÅ\_Y]h]a`DfcZ]! : i`»`VU`"8]Yg`Ài`»`YfhY`g]WÅ`b]WÅ`hini`Y`hni]b  
gY]bYb`VY`]YVhYb`GdfØWÅYbž`X]Y`]b`XYf` : i`»`VU`"Wca`a`i`b]hmic`Zh  
n]h]Yfh`k`i`fXYb`i`bX`X]Y`[`YbYfUh]cbgØVYf[`fY]ZYbX`[`YgWÅ`Ånhh  
k`YfXYb"

8YhU]`g

6Ygi WÅYb`G]Y`i`bg`Ui`Z`b!U[`"XY