

E i Ubhc@i l 'ZY]Yfh'F ]W\ hZYgh. 'B Yi Yf  
: ]fa Ybg]hn']b '? `Yj Y 'b]a a h'; YghU`h'Ub

8]Y': ]fa U'E i Ubhc@i l 'YfÖZbYh'bYi Yb'GhUbXcfh]a '?`Yj Yf  
; Yk YfVY[ YV]Yh'a ]h', \$\$'a †'6ØfcZÀWY'i bX'@[ YfZÀWYb  
V]g'&\$&) "

⇒ '?`Yj Yf'; Yk YfVY[ YV]Yh[ ]Vh'Yg'Ui ZfY[ YbXY'B Yi ][ \_Y]hYb.'8]Y  
: ]fa U'E i Ubhc@i l 'd'Ubh'Y]bY'VYXYi hYbXY'9l dUbg]cb''8YfnY]h  
bcW'ja 'HYWbc`c[ ]YnYbhf i a '?`Yj Y'Ub'XYf'6cgW\ghfU»Y'UbGÀgg][ ž  
k ]fX'XUg'l bhYfbY\ a Yb'VU'X'gY]bYb'bYi Yb': ]fa Ybg]hn'Ub'XYf'J Ub!  
<ci hYb!GhfU»Y'VYn]Y\Ybž'i bk Y]h'XYg'Hk YYghfca g''8]Yg'ghY`h  
b]W\h'bi f'Y]bYb'GW\f]h'h]b'X]Y'Ni \_i bZi'XYg'l bhYfbY\ a Ybg'XUfž  
gcbXYfb'nY][ h'Ui W\XUg'K UW\ghi a 'i bX'X]Y'5a V]h]cbYb']b'XYf  
FY[ ]cb''8]Y': Yfh][ ghY`i b[ 'XYg'bYi Yb'6Øfc[ YVÀi XYg']gh'ZØf'XUg  
YfghY'E i UfhU`&\$&) 'j cf[ YgY\Yb"

9]b'k ]W\h][ Yg'9'Ya Ybh'X]YgYf'9l dUbg]cb']gh'X]Y'Ni gUa a YbUfVY]h  
a ]h'XYf'l b]VUi '; Yk YfVYVUi '; a V<'Ui g'8ØggY'XcfZ'X]Y'a ]h  
9bhk i fZ'`D'Ubi b[ 'i bX'FYU']g]Yfi b[ 'XYg'Dfc'Y\_hg'VYhfUi h'k i fXY"  
8]YgY'DUfhbYfgW\UZh'k ]fX'g]W\YfghY`Ybž'XUgg'X]Y'bYi Yb  
FÀi a `]W\Y]hYb'XYb'5bZcfXYfi b[ Yb'XYg'l bhYfbY\ a Ybg  
YbhgdFYWYb'i bX'a cXYfbghYb'GhUbXUfXg'[ YfYW\h'k YfXYb"  
E i Ubhc@i l 'k ]fX'Ui ZY]bYa '[ fc»nØ[ ][ Yb'; fi bXghØW\_j cb'+&\$\$  
E i UXfUha YhYfb'Y]bY'VYY]bXfi W\_YbXY'6ØfcZÀWY'j cb', \$\$  
E i UXfUha YhYfb'gW\UZZYb''8UfØVYf'\]bUi g'g]bX'Ui W'&, \*  
E i UXfUha YhYf'@[ YfZÀWY'i bX'\*, +E i UXfUha YhYf'; fi bXZÀWY  
Y]b[ Yd'Ubh"

8 YhU]`g'ni f'bYi Yb'l bhYfbY\ a YbgnYbhfU`Y

8]Y'9bhgW\Y]Xi b[ 'ZØf'XYb'GhUbXcfh'Ub'XYf'J Ub!<ci hYb!GhfU»Y

ZÀ`h' b]W\ h' j ca ' < ]a a Y "' 9g'nY][ h'XUg'J YfhfUi Yb' j cb' E i Ubhc@ I ' ]b  
X]Y' F Y [ ]cb' ? `Yj Y' i bX' XYfYb' k ]fhgW\ UZh]W\ Yg' DchYbn]U"' 8 ]YgY  
ϕj Ygh]h]cb' k ]fX' b]W\ h' bi f' X]Y' 6Yhf]YVgUV`Ai ZY' XYg' l bhYfbY\ a Ybg  
cdh]a ]YfYbž' gcbXYfb' Ui W\ ' Y]b' NY]W\ Yb' ZØf' GhUV]` ]h` h' i bX  
K UW\ ghi a ' ]b' XYf' l a [ YVi b [ ' gYhnYb"

; fØ» YfY' 6ØfcZÀW\ Yb' VYXYi hYb' cZhiUi W\ ' a Y\ f' D` Uhn' ZØf  
A ]hUfVY]hYbXY" ϕ' XYf' \Yi h] [ Yb' NY]h]gh' Yg' Yb' hgW\ Y]XYbXž' Y]b  
5fVY]hgi a ZY' X' ni ' gW\ UZZYbž' XUg' gck c\ ` Z' b\_ h]cbU' U' g' Ui W\  
UbgdfYW\ YbX' ]gh" A ]h' a cXYfbYb' F` Ai a ` ]W\ \_Y]hYb' \_Ubb' E i Ubhc@ I  
gY]bYf' 6Y' Y [ gW\ UZh' b]W\ h' bi f' Y]bY' Ub [ YbY\ a Y' 5fVY]hgUha cgd\` AfY  
V]YhYbž' gcbXYfb' Ui W\ ' ]bbcj Uh]j Y' Dfc' Y\_ hY' i bX' ϕY' Yb' Ybhk ]W\_ Y' b"

5i gV` ]W\_ ' Ui Z' X]Y' : Yfh] [ ghY` `i b [ ' i bX  
< YfUi gZc fXYfi b [ Yb

8]Y' 6Ui UfVY]hYb' gW\ fY]hYb' j cfUbž' i bX' X]Y' J YfUbhk cfh]W\ Yb' g]bX  
cdh]a ]gh]gW\ ž' XYb' NY]hd' Ub' Y]b\ U' hYb' ni ' \_ØbbYb" 8 ]Y  
< YfUi gZc fXYfi b [ `VYghY\ h' XUf]bž' Ui W\ ' ]b' NY]hYb' j cb  
F c\ ghc Z\_ bUdd\ Y]h' i bX' UbXYfYb' k ]fhgW\ UZh]W\ Yb' l bg]W\ Yf\ Y]hYb  
YZ]n]Ybhni ' UfVY]hYb" 8 Ug' HYUa ' j cb' l b]VUi ' ]gh' YXcW\ ' YfZU\ fYb  
i bX' k ]fX' U' Yg' XUfUb' gYhnYbž' X]Y' 5fVY]hYb' Zf]gh [ YfYW\ h  
UVni gW\ `Y» Yb' i bX' Y]bY' fY]Vi b [ g' cgY' , VYf [ UVY' ni  
[ Yk `À\ f' Y]ghYb"

8]YgY' 9l dUbg]cb' k ]fX' j cfUi gg]W\ h]W\ ' b]W\ h' bi f' E i Ubhc@ I ' gY' Vgh  
VYhfY ZYbž' gcbXYfb' \_ØbbhY' Ui W\ ' dcg]h]j Y' 9ZY\_ hY' Ui ZX]Y  
U' [ Ya Y]bY' k ]fhgW\ UZh]W\ Y' @U [ Y' ]b' ? `Yj Y' \ UVYb" 8 Yf' 6Ui ' bYi Yf  
9]bf]W\ hi b [ Yb' i bX' X]Y' GW\ UZI b [ ' j cb' 5fVY]hgd' `ÀhnYb' g]bX' ]a a Yf  
dcg]h]j ' ni ' VYk YfhYbž' Ui W\ ' k Ybb' Yg' Ub' X]YgYf' GhY` `Y' \_Y]bY  
\_cb\_ fYhYb' ϕZcfa Uh]cbYb' ni ' a Ø [ ` ]W\ Yb' bYi Yb' GhY` `Yb' [ ]Vh" 8 Ug  
9b [ U [ Ya Ybh' j cb' E i Ubhc@ I ' i bX' X]Y' ϕj Ygh]h]cb' ]b' X]Y' bYi Y  
NYbhfU' Y' ghY\ Yb' YXcW\ ZØf' XYb' Ub\ U' hYbXYb' 5i Zk `ÀfhghfYbX' XYg  
l bhYfbY\ a Ybg"

9]b' bYi Yf' A Y]` YbghY]b' ZØf' E i Ubhc@ i l

A ]h'XYf'5b\_ØbX][ i b[ 'XYg'bYi Yb'GhUbXcfhg'nY][ h'E i Ubhc@i l 'b]W\h  
bi f'gY]bY'V]g\Yf][ Yb'9fZc`[ Yž'gcbXYfb'Ui W\XYb'K ]'Ybž  
'Ub[ Zf]gh][ 'b'XYf'FY[ ]cb'dfÀgYbh'ni 'V`Y]VYb"8]Yg'gh'Y]b  
k ]W\h][ Yf'GW\f]hh'Ui Z'XYa 'K Y[ ž'X]Y'J]g]cbYb'i bX'N]Y`Y'XYg  
l bhYfbY\ a Ybg'ni 'j Yfk ]f\_]W\Yb"8Yf'BYi VUi 'gc``b]W\h'bi f'X]Y  
V]g\Yf][ Yb'5\_h]j ]hÀhYb'i bhYfghØhnYbž'gcbXYfb'Ui W\FUi a 'ZØf  
ni \_ØbZh][ Y'9bhk ]W`i b[ Yb'i bX'Æbcj Uh]cbYb'V]YhYb"8]Y'FY[ ]cb  
?'Yj Y'XUfZ'[ YgdUbbhgY]bž'k Ug'X]Y`\_ca a YbXYb'Æ\fy'Vf]b[ Yb  
k YfXYb"

## 8]Y'9I dUbg]cbgd`ÀbY'j cb'E i Ubhc@i l 'ja 8YhU]`

E i Ubhc@i l žY]b'i bhYfbY\ a Ybž'XUg'[ Y[ Ybk Àfh][ 'ja  
HYW\bc`c[ ]YnYbhfi a '?'Yj Y'UbgÀgg][ 'ghž'Yfk Y]hYfh'gY]bY  
5\_h]j ]hÀhYb'Yf\YV`]W\ a ]h'XYa '6Ui 'Y]bYg'bYi Yb': ]fa Ybg]hnYg"  
8]YgYg'9b[ U[ Ya Ybh'ni f'9I dUbg]cb'gh'HY]'Y]bYf'ghfUHY[ ]gW\Yb  
Æ]h]Uh]j Yž'X]Y'XUfUi Z'UVn]Y'hž'X]Y'VYhf]YV`]W\Yb?'UdUn]hÀhYb'i bX  
X]Y'9ZZ]n]Ybn'ni 'Yf\Ø\Yb"8]Y'bYi Yb'FÀi a `]W\Y]hYb'Ub'XYf'J Ub!  
<ci hYb!GhfU»Y'k YfXYb'b]W\h'bi f', \$\$'E i UXfUha YhYf'6ØfcZÀW\Y  
gW\UZZYbž'gcbXYfb'Ui W\&, \*'E i UXfUha YhYf'ZØf'@U[ Yfnk YW\_Y'i bX  
Y]bY'; fi bXZÀW\Y'j cb'\*, +'E i UXfUha YhYfb'V]YhYb"

8]Y'9bhgW\Y]Xi b[ ž'XYb'GhUbXcfh'ni 'j Yf'Y[ Ybž'\_ca a h]b'Y]bYf  
NY]hž'j]b'XYf'j ]Y`Y'i bhYfbY\ a Yb'X]Y'Bchk YbX][ \_Y]h'Yf\_YbbYbž']\fy  
fÀi a `]W\Yb'i bX'hYW\ b]gW\Yb'FYggci fW\ b'ni 'cdh]a ]YfYb"8]YgY  
bYi '[ YghU'hYhYb'6Øfcg'gc``Yb'a cXYfbghY'HYW\bc`c[ ]Yb'i bX  
5fVY]hgi a [ YVi b[ Yb'V]YhYbž'X]Y'gck c\`X]Y'DfcXi \_h]j ]hÀh'XYf  
A ]hUfVY]hYf'ghY][ Yfb'U`g'Ui W\Y]b'UhhfU\_h]j Yg'l a ZY'X'ZØf'bYi Y  
HU`YbhY'gW\UZZYb"

## 9]bY'5bU`mgY'XYg'fY[ ]cbU`Yb K ]fhgW\UZhghUbXcfhg

8]Y'FY[ ]cb?'Yj Yž']b'XYf'XUg'bYi Y': ]fa Yb[ YVÀi XY'YbhghY\hž  
V]`XYh'Y]bYb'XmbUa ]gW\Yb'K ]fhgW\UZhghUbXcfhž'XYf'j cb  
j YfgW\]YXYbYb': U\_hcfYb'dfcZ]h]Yfh"8Uni '[ Y\ØfYb'Y]bY'nYbhfU`Y

@U[ Y`b`BcfXf\Y]b!K YghZU`Ybž`Y]bY`[ i h`Ui g[ YVUi hY`ϕZfUghfi \_hi f  
i bX`X]Y`BÀ\Y`ni`k ]W`h][ Yb`J Yf\_Y\fgUbV]bXi b[ Yb`k ]Y  
5i hcVU\`bYb`i bX`6U\`b\`ÖZYb`"8]Y`GhUXh`?`Yj Y`gY`Vgh`\Uh`]b`XYb  
`YhnhYb`ϕ\`fYb`ϕ]h]Uh]j Y`[ YnY][ hž`i a`l bhYfbY\`a Yf`ni  
i bhYfghØhnYb`i bX`ϕbcj Uh]cbYb`ni`ZØfXYfbž`k Ug`ni`Y]bYa`5bgh]Y[  
Ub`BYi [ fØbXi b[ Yb`]b`XYf`FY [ ]cb`[ YZØ\fh`\Uh`

8UfØVYf`\]bUi g`gd]Y`h`X]Y`Ni gUa`a YbUfVY]h`a ]h`c`\_U`Yb  
l bhYfbY\`a Yb`i bX`6]`Xi b[ gY]bf]W`hi b[ Yb`Y]bY`]a`a Yf`[ fØ»YfY  
Fc`Y`"6Y]gd]Y`gk Y]gY`\_ccdYf]Yfh`E i Ubhc@ l`a`Ò[ `]W`Yfk Y]gY`a`]h  
XYf`<cW`gW`i`Y`F`Y]b!K UU`ž`i a`DfU`h]\_i a`gd`ÀhnY`i bX  
: cfgW`i b[ gdfc`Y`\_hY`ni`ZØfXYfb`"8]Yg`\_ØbbhY`b]W`h`bi`f`XYb  
5i ghUi gW`j`cb`K`]ggYb`i bX`:`À\][`\_Y]hYb`gh`Àf`\_Ybž`gcbXYfb`Ui`W`  
X]Y`6]bXi b[ `↑ b[ Yf`HU`YbhY`Ub`X]Y`FY [ ]cb`Yf`\`ÖYb`"Gc`W`Y  
?ccdYfUh]cbYb`g]bX`YbhgW`Y]XYbX`ZØf`X]Y`GW`UZZ`b[ `Y]bYg  
bUW`U`h][ Yb`k`]fhgW`UZh]W`Yb`l`a`ZY`XYg`

## 5\_hi Y`Y`GhUh]gh]\_Yb`ni`f`

l bhYfbY\`a YbgYb`hk ]W`\_`i b[ `]b`?`Yj`Y`

@Ui h`XYa`ghUh]gh]gW`Yb`@UbXYgUa`h`BF`K`]gh`X]Y`5bnU\`X`Yf`  
l bhYfbY\`a Yb`]b`BcfXf\Y]b!K YghZU`Yb`]b`XYb`YhnhYb`ϕ\`fYb`  
\_cbh]bi ]Yf`]W`[ Ygh]Y[ Yb`"ϕgVYgcbXYfY`\_Y]bY`i bX  
a ]hY`gh`ÀbX]gW`Y`l bhYfbY\`a Yb`fP`A l`É\UVYb`]b`j YfgW`]YXYbYb  
6fUbW`Yb`Y]b`g][ b]Z]\_UbhYg`K`UW`ghi`a`j YfnY]W`bYh`"8]Y`FY [ ]cb  
?`Yj`Y`nY][ h`Y]bY`À\`b`]W`Y`HYbXYbnž`k Ug`g]W`]b`XYf`NU\`X`Yf`  
BYi [ fØbXi b[ Yb`gck ]Y]b`XYb`Yl`dUbX]YfYbXYb`6Yhf]YVYb  
k ]XYfgd]Y[ Y`h`

- 8]Y`NU\`bYi`[ Y[ fØbXYhYf`l bhYfbY\`a Yb`]b`?`Yj`Y`gh]Y[  
j`cb`&\$%-`V]g`&\$&&`i`a`Yhk`U`%)`i`"
- ?`A`l`g]bX`ZØf`Yhk`U`\*`\$`l`X`Yf`5fVY]hgd`ÀhnY`]b`XYf`FY [ ]cb  
j`YfUbhk`cfh`]W`"
- 8]Y`5fVY]hg`cgYbei`chY`]b`?`Yj`Y`]Y[ h`i`bhYf`XYa`b`cfXf\Y]b!  
k`YghZÀ`]gW`Yb`8`i`fW`gW`b]h`i`bX`VYhfÀ[ h`XYfnY]h`Yhk`U`)`i`"

8]YgY`GhUh]gh]\_Yb`j`YfXYi`h]W`Ybž`XUgg`X]Y`k`]fhgW`UZh]W`Yb  
FU\`a`YbVYX]b[ i b[ Yb`]b`?`Yj`Y`[ Øbgh][`g]bX`i`bX`Y]bY`dcg]h]j`Y`

9bhk ]W\_`i b[ `ZØf`l bhYfbY\`a Yb`k ]Y`E i Ubhc@ I `ni `Yfk UfhYb`]gh"  
8Yf`bYi Y` : ]fa Ybg]hn`k ]fX`j cfUi gg]W\h]W\`Y]bYb`k ]W\h[ Yb`6Y]hfU[  
ni `X]YgYf`XmbUa ]gW\Yb`K ]fhgW\UZh`Y]ghYb`i bX`X]Y  
K YhhVYk YfVgZÅ\`][ \_Y]h`XYf`F Y[ ]cb`k Y]hYf`ghÅf`\_Yb"

8YhU]`g

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