

@j YbUa Y . H\YUhYfghØW\_ Yf[ fØbXYh  
ei YYfY`⇒XYbh]hÅhYb`]b`XYf`Ni`\_i`bZh

5a`&&"GYdhYa VYf`&\$&( `nY)[ h`X]Y`9I`dYX]h]cb`7\Uk`k`Yfi`gW  
]a`J`<G`?U]gYfg`Ui`hYfb`XUg`GhØW\_`@j`YbUa`Y`ØVYf`ei`YYfY`  
;`YgW`]W`hY`i`bX`⇒XYbh]hÅh`

⇒a`<YfnYb`j`cb`?U]gYfg`Ui`hYfb`ž`[`YbUi`Yf`[`YgU`[`h`]a`];`Ycf`[`!A`]W`UY`!  
DZUZZ`GUU`XYf`J`c`\_g`c`W`g`W`i`Y`ž`VYfY]hYhg]W`X]Y`9I`dYX]h]cb  
7\Uk`k`Yfi`gW`Ui`ZY]bY`gdUbbYbXY`DfYa`]YfY`j`cf`"5a`GcbbhU[`ž  
XYa`&&"GYdhYa VYf`&\$&( `ž`k`]fX`XUg`H\YUhYfghØW\_`@j`YbUa`Y`  
Y]b`GhØW\_`ØVYf`;`YbXYf`i`bX`;`YgW`]W`hY`i`Ui`Z`[`YZØ\fh`"8`]YgY  
⇒gnYb]Yfi`b`[`]gh`b]W`h`bi`f`ZØf`H\YUhYf`]YV\UVYf`j`cb`⇒hYfYggYž  
gcbXYfb`fY`[`h`Ui`W`X]Y`5i`gY]bUbXYfgYhni`b`[`a`]h`k`]W`h][`Yb  
H\Ya`Yb`k`]Y`;`YgW`Y`W`hg]XYbh]hÅhi`bX`XYf`5fhi`bX`K`Y]gYž`k`]Y  
;`YgW`]W`hY`YfnÅ`h`k`]fX`ž`Ub`"8`Yf`9]bhf]hh`]gh`ZfY]ž`i`bX`⇒hYfYgg]YfhY  
\_ØbbYb`g]W`VYfY]hg`Y`hnh`\_cghYb`c`gY`?`UfhYb`VY]`XYf`Hci`f]gh  
⇒Zcfa`Uh]cb`]b`XYf`i`fi`W`h`U`ghfU`»`Y`%(`UV\c`Yb`"

8]Y`i`Ugn]bUh]cb`XYg`H\YUhYfghØW\_g`VY`[`]bbh`VYfY]hg`]b`XYf  
Ni`\_i`bZhj`]g]cb`XYg`J\`fYg`&%`'`" `⇒Y`]bYf`NY]hž`]b`XYf`U`\_hi`Y`Y  
H\Ya`Yb`k`]Y`;`YgW`Y`W`hg]XYbh]hÅhi`bX`XYf`i`a`[`Ub`[`a`]h`XYf  
J`Yf`[`Ub`[`Yb`Y]h`i`a`A`]hY`di`b`\_h`ghY\Yb`ž`ghY`h`XUg`GhØW\_`X]Y`i`fU`[`Y.  
K`Y`W`Y`;`YgW`]W`hY`b`k`YfXYb`YfnÅ`h`ž`i`bX`k`Yf`\Uh`X]Y`A`UW`hž`g]Y  
ni`YfnÅ`Yb`3`8]Y`<`Ub`X`i`b`[`Zc`[`h`XfY]`ž`[`Yb`X`]W`Yb`ž`X]Y`]b`Y`]bYa  
\c`W`[`Yg]W`YfhYb`6YfY]W`X`Yb`GYY`XYf`;`YgW`]W`hY`YbhXYW\_Yb`"  
8]Yg`ZØ\fh`g]Y`ni`j`YfV`ØZYbXYb`9f`\_Yb`bh]ggYb`ž`XUgg`Yg`Y]bgh  
a`Y`f`U`g`bi`f`Y]b`Dfcbca`Yb`[`UV`i`bX`XUgg`gc`[`Uf`X]Y`DZU`n`Y]bY  
ei`YYfY`;`YgW`]W`hY`ni`YfnÅ`Yb`\Uh`"8]YgY`9bhXYW\_i`b`[`Yb  
YfgW`ØhYfb`]Y`fYb`V]g`Yf][`Yb`6`]W\_`Ui`Z`X]Y`K`Y`hi`bX`UXYb`Ui`W  
XUg`Di`V`]i`a`X`Uni`Y]b`ž`g]W`a`]h`X]YgYb`H\Ya`Yb  
Ui`gY]bUbXYfni`gYhnYb`"

# H\Ya Ybj ]Y`ZU`h'i bX`Ya ch]cbU`Y`H]YZY

8]Y`bgnYb]Yfi b[ `k YWAgY`h'nk ]gWYb`Yfbgh\UZhYb`i bX`ZfO\`]WYb  
A ca YbhYbžk Ug`XUg`Di V`\_i a `VY[ Y]ghYfh"FY[ ]ggYi f]b`Gi gUbbY  
GWa Y`WYf`\UhVYk i ggh'6fØWY`b`XYf`Gh]a a i b[ `Y]b[ YVUi hžX]Y  
X]Y`Ni gWUi Yf`ni a `@UWYb`i bX`BUWXYb\_Yb`UbFY[ Yb"CV`Xi fW  
X]Y`6Ugg`bYg`U\_hi Y`Yf`< ]hg`cXYf`Ya ch]cbU`Yf`A i g]\_ghØW`Yž`X]Y  
`j] Y`Ui Z`XYf`6Ø`bY`YfnYi [ h`k YfXYbžk ]fX`XUg`9f`YVb]g`ZØf`U`Y  
G]bbY`VYfY]WYfh"7\cfYc[ fUZ]Y`i bX`8fUa Uhi f[ ]Yž`i bhYf`@Y]hi b[  
j`cb`@]Ua`7`UbWmi bX`A`cb]\_U`?`YYVUi Yfž`fi bXYb`X]Y`\_fYUh]j`Y  
8UfV]Yhi b[ `UV"

8 Ug`GhØW`\_X]Yb`h`b]W`h`bi f`XYf`i bhYf`U`hi b[ ž`gcbXYfb`Ui W`X`Yf  
GWUZZ b[ `Y]bYg`6Yk i gghgY]bg`ZØf`V]g\Yf`i bVYUW`hYhY` : UW`hhYb  
XYf`Y][ YbYb`≠Ybh]hÅh"9g`Yfa i h][ h`X]Y`š [ YbX`]WYbž`bYi [ ]Yf][ `ni  
gY]b`i bX`\fY`Y][ YbYb` ; YgW]W`hYb`ni `YfZc`fgWYb` `Y]bY  
6chgW`UZh`X]Y`b`XYf`\Yi h][ Yb`NY]h`VYgcbXYfg`k ]W`h][ `]gh" < ]Yf  
k ]fX`XYi h]W`ž`XUgg`H\YUhYf`a Y`f`gY]b`\_Ubb`U`g`bi f`8UfV]Yhi b[ /  
Yg`]gh`Y]b`C`fh`XYg`@YfbYbg`i bX`XYf`dYfgØb`]WYb`9bhZU`hi b[ "

8]Y`9I dYX]h]cb`7\Uk`k`Yfi`gW`]gh`X]Y`↑ b[ Y`GdUfhY`XYg  
7\Uk`k`Yfi`gW`!H\YUhYfgž`XUg`g]W`gY]h`J\`fYb`Y]bYb`BUa`Yb  
[ Ya`UW`h`\Uh"≠fY`DfcXi`\_h]cbYb`g]bX`a`U» [ YgW`bY]XYfh`ZØf  
š [ YbX`]WY`i bX`↑ b[ Y`9fk`UW`gYbY`i bX`V]YhYb`Y]bY`VfY]hY  
DU`YhhY`Ub`h\YUhYfd`AXU[ c [ ]gWYb`5b[ YVchYb`Ub"8 Ug`?c`Y`\_h]j  
\Uh]g]W`ni a`N]Y`[ YgYhnhž` ; YgW]W`hY`i bX` ; YgW]W`hYb`Ui Z  
`YVYbX][ Y`K`Y]gY`YfZU`fVUf`ni`a`UWYbž`i bX`gYhnh`XUVY]`Ui Z  
\_fYUh]j`Y`?`cbnYdh]cbYbž`X]Y`XUg`Di V`\_i a`ni a`A]hXYb\_Yb  
UbfY[ Yb"

# K Yfhj c`Y`DYfgdY\_h]j Yb`i bX`ZfY]Yf`9]bhf]hh

8]Y`JYfUbgH`hi b[ `ghUfhYhi a`%+"\$\$`i`f`a`]h`9]b`Ugg`UV`%\*`" \$  
I`f"BYVYb`XYf`A`Ø[ `]W`\_Y]hž]a`J`c`fZY`X`?`UfhYb`ni`fYgYfj`]YfYbž  
ghY\Yb`a`Ø[ `]W`Yfk`Y]gY`Ui`W`fYgh`UfhYb`Ub`XYf`5VYbX`UggY`ni`f  
JYfZØ[ i b[ "8]Yg`nY][ hž`k`]Y`k`]W`h][ `Yg`]ghž`\_i`hi`fY`Y  
JYfUbgH`hi b[ Yb`ZØf`Y]b`VfY]hYg`Di V`\_i a`ni [ Åb[ `]W`ni`a`UWYb  
i bX`gca`]h`bYi`Y`DYfgdY\_h]j`Yb`ni`ZØfXYfb"

: Øf'k Y]hYfY' ðZcfa Uh]cbYb'ni f'J YfUbghU'hi b[ 'gck ]Y'ni 'XYb  
H\Ya Yb'XYg'GhØW\_g'\_ÒbbYb' ðhYfYgg]YfhY'X]Y'K YVg]hY'XYf'GhUXh  
?U]gYfg'Ui hYfb'i bhYf'XYf'Fi Vf]\_ '5\_hi Y''Yg 'VYgi WXYb" '8 Ug  
7\Uk k Yfi gW!H\YUhYf'ÀXh'U''Y'Y]bž'HY]'X]YgYf'Ui ZfY[ YbXYb  
FY]gY'Xi fW'X]Y'; YgW]W hY'i bX' ðYb]hÀh'ni 'k YfXYb'i bX'XUVY]  
X]Y'Y][ YbYb'J cfghY''i b[ Yb'j cb'; YgW'YW h'i bX'; YgW]W hY'ni  
\bhYfZfU[ Yb"

## E i YYfY'DYfgdY\_h]j Yb'Yb hXYW\_Yb

@j YbUa Y 'V]YhY'h'b]W h'bi f'Y]bY'D'UhhZcfa 'ZØf'8]g\_i gg]cbYb'ØVYf  
; YgW'YW h'i bX' ðYb]hÀhž'gcbXYfb'ÒZbYh'[ 'Y]W nY]h][ 'HØfYb'ni  
j YfghYW\_hYb'5gdY\_hYb'XYf'; YgW]W hY'"8]Y'9]b'UXi b[ ž'g]W 'a ]h  
X]YgYb'H\Ya Yb'ni 'VYZUggYbž']gh'b]W h'bi f'ZØf'X]Y'† [ YbX']W Yb  
DfchU[ cb]ghYb'j cb'6YXYi hi b[ ž'gcbXYfb'Ui W'ZØf'XUg'Di V']\_i a ž  
XUg'Yfa i h][ h'k ]fXž'gY]bY'Y][ YbYb'5bg]W hYb'i bX': fU[ Yb'ni  
Yf\_i bXYb" ð'Y]bYf'NY]hž']b'XYf' ðYb]hÀh'i bX'; YgW]W hY'hÀ[ 'j]W  
bYi 'j Yf\UbXY'h'k YfXYbž']gh'Yg'i bYf'Àgg']W ž'XUg'H\YUhYf'U'g'Y]bYb  
Cfh'XYg'8]U'c[ g'i bX'XYf'FYZYI ]cb'ni 'bi hnYb"

## < ]bhYf[ fi bX]bZcfa Uh]cbYb'ni f'ei YYfYb H\Ya Uh]\_

8]Y'5i gY]bUbXYfgYhni b[ 'a ]h'; YgW'YW hg]XYb]hÀh'i bX'ei YYfYb  
; YgW]W hYb'\Uh]b'XYb'Y'mhYb' ð\YfYb'Ub'[ YgY''gW UZi]W Yf  
6YXYi hi b[ 'Yk cbbYb"6Yk Y[ i b[ Yb'k ]Y'Df]XY'i bX'X]Y'5\_nYdhUbn  
j cb'@, 6HE -5Ž ! ðYb]hÀhYb'g]bX' ]b'j ]Y'Yb '@ÀbXYfb'ghÀf\_Yf']bg  
ÒZZYb]h]W Y'6Yk i ggghY]b[ 'YfØW\_h"8]YgY'J YfÀbXYfi b[ Yb'gd]Y[ Y'b  
g]W 'b]W h'bi f']b'XYf'Dc'h]\_ž'gcbXYfb'Ui W' ]b'XYf'?i bgh'k ]XYfž'k c  
H\YUhYfUi ZØ\fi b[ Yb'k ]Y' @j YbUa Y 'XUni 'VY]hfU[ Ybž'j ]Y'ZÀ'h][ Y  
DYfgdY\_h]j Yb'ni 'ZØfXYfb'i bX'X]Y'G]W hVuf\_Y]h'ei YYfYf  
@VYbYbgk Y]gYb'ni 'Yf\Ø\Yb"

8 Ug'7\Uk k Yfi gW!H\YUhYf'ghY''h'a ]h'gY]bYf'DfcXi \_h]cb'Y]bYb  
6Yni [ 'ni f'ei YYfYb'; YgW]W hY'XYf'DZU'n'\Yfž'X]Y'cZi]a 'GW UhhYb  
XYf'U''[ Ya Y]bYb'; YgW]W hggW fY]Vi b[ 'V'Y]Vh"8]YgY''c\_U'Y  
J YfUb\_Yfi b[ 'j]gh'k ]W h][ ž'XU'XUg'J YfghÀbXb]g'ZØf'X]Y'Y][ YbYb

K i fnY`b`i bX`X]Y`G]W\hVUfa UW i b [ `j cb`8]g\_f]a ]b]Yfi b [ g`!`i bX  
l bhYfXfØW\_i b [ g [ YgW\]W\hYb`ZØf`X]Y` [ YgY`gW UZh]W\Y`5\_nYdhUbn  
j cb`J ]Y`ZU`h`j cb`nYbhfU`Yf`6YXYi hi b [ `g]bX`"9g`k ]fX`XYi h`]W\ž`XUgg  
H\YUhYf`b]W\h`bi f`l bhYf\U`hi b [ ž`gcbXYfb`Ui W\`Y]b`A`YX]i a`ZØf  
[ YgY`gW UZh]W\Y`8]g\_i gg]cbYb`i bX`X`Yb]h`h`hgZ]bXi b [ `]gh"

GhUh]gh]gW\Y`8 UhYb`ni f`@, 6HE =5Ž`!5\_nYdhUbn  
]b`8Yi hgW\`UbX

l a`XYb`?cbhYl h`XYf`H\Ya Uh]\_ni`i bhYfghfY]W\Ybž`g]bX`U\_hi Y`Y  
8UhYb`ni f`5\_nYdhUbn`j cb`@, 6HE =5Ž`!DYfgcbYb`]b`8Yi hgW\`UbX  
fY`Yj Ubh`"@Ui h`Y]bYf`l a`ZfU [ Y`XYg`5`YbgVUW\!`bgh]hi hg`Ui g`XYa  
X\`f`&\$&&`VYZØfk cfhYb`ØVYf`, \$`DfcnYbh`XYf`XYi hgW\Yb  
6Yj Ø`\_Yfi b [ `X]Y` ; `Y]W\ghY`i b [ `j cb` [ `Y]W\ [ YgW\`YW\h]W\Yb`9\Yb`"  
8]Yg`nY][ hž`XUgg` [ YgY`gW UZh]W\Y`J cfi fhY]`Y`nk Uf`bUW\`k ]Y`j cf  
Yl ]gh]YfYbž`UVYf`ni bY`a`YbX`UV [ YVUi h`k YfXYb`"

Ni g`Àh`]W\`Yf [ UV`Y]bY`l bhYfgi W\i b [ `XYg`8Yi hgW\Yb`b`gh]hi hg`ZØf  
Bcfa i b [ `fB`B`ž`XUgg`a`Y`f`U`g`+\$`DfcnYbh`XYf`6YZfU [ hYb`X]Y  
G]W\hVUf`\_Y]h`j cb`@, 6HE =5Ž`!H\Ya`Yb`]b`A`YX]Yb`i bX`?`i`h`i`f`U`g  
k ]W\h][ `YfUW\hYb`"Gc`W\Y`GhUh]gh]\_Yb`VY`Y [ Ybž`k ]Y`Y]bgW\bY]XYbX  
X]Y`5i gY]bUbXYfgYhni b [ `a`]h; YgW\`YW\hg]XYbh]h`h`hi bX`ei YYfYb  
H\Ya`Yb`ZØf`X]Y`5\_nYdhUbn`i bX`XUg`Ni gUa`a`Yb`VYb`]b`XYf  
; YgY`gW UZh]g]bX`"8]YgY`8 UhYb`g]bX`Yb`hgW\Y]XYbXž`i a`XUg  
Di V`\_]i a`ZØf`X]Y`X`Yb`b`]bhYf` @] YbUa`Y`ni`gYbg]V`]g]YfYb`i bX  
Y]bYb`8]U`c [ `ni`Yf`ØZbYb`"

< ]ghcf]gW\Y`DUfU`Y`Yb`XYf`ei YYfYb  
G]W\hVUf`\_Y]h`]a`H\YUhYf

K Ybb`a`Ub`X]Y`U\_hi Y`Y`DfcXi`\_]cb`j`cb` @] YbUa`Y`VYhfUW\hYhž  
]gh`Yg`\`]ZfY]W\ž`\]ghcf]gW\Y`DUfU`Y`Yb`ni`VYhfUW\hYb`"@`ghgd]Y`  
i bX` [ YgY`gW UZh]W\Y`GUh]fY`k UfYb`gW\cb`]a`Ub]\_Yb  
; f]YW\Yb`UbX`hfU [ YbXY`9`Ya`YbhY`XYg`H\YUhYfg`"8]YgY` : cfa`UhY  
k i fXYb` [ Ybi hnhž`i a` [ YgY`gW UZh]W\Y`Bcfa`Yb`i bX`dc`]h]gW\Y  
H\Ya`Yb`ni`b`]bhYfZfU [ Yb`"9]b`Y]bXfØW`\_]W\Yg`6Y]gd]Y`]gh`X]Y  
HfU [ ØX]Y`X`W`V]b`b]W\h`j`cb`\]Yf`j`cb`%`-` , `ž`X]Y`g]W\`a`]h

⇒Ybh]hÀhgZfU[ Yb'i bX'XYa '9f'VYb'j cb'5i g[ fYbni b[  
Ui gY]bUbXYfgYhnhY''ÿ\b`]Wk`jY' @j YbUa Y 'VY]b\U'hYh'X]YgY  
5i ZZ\fi b[ '9'Ya YbhY'XYf'⇒Ybh]hÀhgZ]bXi b[ 'gck ]Y'X]Y  
5i gY]bUbXYfgYhni b[ 'a ]hi bhYfXfØW\_hyb` \]ghcf]gWYb  
9fnÀ\`i b[ Yb"

⇒XYb`YhnhYb`⇒\fnY\bhYb`\Uh'XUg'H\YUhYf'ni bY\ a YbX'ei YYfY  
H\Ya Yb'Ui Z[ Y[ f]ZZYb'i bX']b'XYb'J cfXYf[ fi bX'[ YfØW\_h"Gc  
gd]Y[ Y'h'VY]gd]Y`gk Y]gY'X]Y'DfcXi \_h]cb' 5b[ Y`g]b'5a Yf]WU`j cb  
Hcbm?i g\bYf'XYb'5=8G! ?f]Y[ 'XYf'%- , \$Yf'⇒\fY'i bX'X]Y'XUa ]h  
j YfVi bXYbY'[ YgY`gWUZh']WY'FY'Yj Ubn'k ]XYf''8i fW'gc`WY  
5i ZZ\fi b[ Yb'k ]fX'XYi h]Wž'k ]Y'H\YUhYf'U`g'Gd]Y[ Y`XYf  
; YgY`gWUZh'Zi b[ ]YfYb'\_Ubb'i bX'[ 'Y]WnY]h][ 'U`g'D`UhZcfa 'ZØf  
a Uf[ ]bU'nYX'j c]Wg'X]Ybh''8]Yg'nY][ h'X]Y'Zc fhXUi YfbXY  
6YXYi hi b[ 'j cb'H\YUhYf'U`g'FUi a 'ZØf'?f]h]\_i bX'HfUbgZcfa Uh]cb"

8YhU]`g

6Ygi WXYb'G]Y'i bg'Ui Z.'b!U[ "XY