

8 fUgh]gW\ Yg`l fhY]`. `Y [ mdhYf`j Yfi fhY]`h  
b UW\ `A YggYfUhhUW\_Yb`]b`GdYmYfYf`5 Z5

9]b` &!`A\ f][ Yf`Y [ mdhYf`k i fXY`k Y[ Yb`A YggYfUhhUW\_Yb`]b  
XYf`5 Z5`GdYmYf`ni`XfY]`j\ fYb`i bX`XfY]`A cbUHYb`< UZh  
j Yfi fhY]`h"

⊕`Y]bYa`VYa Yf\_YbGk YfhYb`l fhY]`XYg`GW\ ÖZZYb[ Yf]W\ hg`Ua  
5a hg[ Yf]W\ h`GdYmYf`k i fXY`Y]b` &!`A\ f][ Yf`Y [ mdhYf`ni`Y]bYf  
: fY]\Y]hgghfUZY`j cb`XfY]`j\ fYb`i bX`XfY]`A cbUHYb`j Yfi fhY]`h"  
8]YgYf`U`n]Y\ h`VYgcbXYfY`5i Za Yf\_gUa`\_Y]h`Ui Z`g]W\ ž`XU`Yf`g]W\  
i a`a`Y\ fYfY`A YggYfUhhUW\_Yb`]b`XYf`5i ZbU\ a`YY]bf]W\ hi b[ `ZØf  
5gm`VY[ Y\ fYbXY`f5 Z5`XfY\ h`8Yf`A Ubb`k i fXY`ZØf`gW\ i`X][  
VYZ bXYbž`nk Y]:`Ä`Y`j cb`[ YZ\`f]W\ Yf`? ÖfdYfj Yf`Yhni b[  
VY[ Ub[ Yb`ni` \UVYb`"8]YgY`5[ [ fYgg]cb`ZUbX`]a`A`Äfn`ghUhh`U`g`Yf  
c\ bY`Yf\_YbbVUfYb`; fi bX`G]W\ Yf\ Y]hga`]hUfVY]hYf`XYf`9]bf]W\ hi b[  
a`]h`Y]bYa`\_`Y]bYb`? ØW\ Yba`YggYf`Ub[ f]ZZ"

9]bYg`XYf`CdZYf`Yf`]hYb`XUVY]`Y]bY`Yf\YV`]W\ Y  
; Yg]W\ hgj Yf`Yhni b[ ž`X]Y`]\ a`bUW\`XYb`K`cfhYb`XYg`; Yf]W\ hg`b]W\ h  
bi f`U\_i hY`GW\ a`YfnYbž`gcbXYfb`Ui W\`Ub[ Zf]gh][ Y`\_ÖfdYf`]W\ Y  
BUfVYb`VYgW\ YfYb`k`]fX`"Gc`W\ Y`5hhUW\_Yb`k`YfZYb`Y]b`GW\`U[ `]W\ h  
Ui Z`X]Y`< YfUi`gZcfXYfi b[ Yb`XYf`G]W\ Yf\ Y]h]b`9]bf]W\ hi b[ Ybž`X]Y  
ZØf`X]Y`l bhYfVf]b[ i b[ `j cb`5gm`igi W\ YbXYb`ni gh`AbX][ `g]bXž`i bX  
X]Y`dchYbn]Y`Yb`F`]g]\_Ybž`X]Y`Ui`g`?cbZ`\_hYb`]bbYf\ U`V`X]YgYf`cZh  
\cW\gYbg]V`Yb`l a`[ YVi b[ Yb`YbghY\Yb"

J Yf`Ui Z`XYg`J YfZU\ fYbg`i bX`9bhgW\ i`X][ i b[  
XYg`5b[ Y`\_`U[ hYb

8Yf`gcZcfh`bUW\`gY]bYf`YghbU\ a`Y`]b`< UbXgW\ Y`Yb`[ YZYggY`hY  
5b[ Y`\_`U[ hY`k i fXY`k`Ä\ fYbX`XYg`J YfZU\ fYbg`j`cf[ YZØ\ fh`Hfchn`XYf

GWk YfY'gY]bYf'HUHyb'nY][ hY'Yf'FYi Y'i bX'YbhgWxi`X][ hY'g]Wk`ZØf  
gY]bY'<UbX'i b[ Yb''9g']gh'YXcW`VYa Yf\_Ybgk Yfhž'XUgg'Yf'Ub[ UVž  
\_Y]bY'9f]bbYfi b[ 'Ub`X]Y' [ YbUi Yb'5V`Ài ZY'XYf'J cfZÀ`Y'ni `UVYb"  
8]Yg'\_ØbbhY'XUfUi Z`]bXYi hYbž'XUgg'XYf'5b[ Y'\_U[ hY  
a Ò[ `]WYfk Y]gY'j cb'Y]bYf'XYgcf]Ybh]YfYbXYb'; YXÀW`hb]gghÒfi b[  
cXYf'Y]bYa `dgmWk`c`c[ ]gWYb`Ni ghUbX`VYY]bZi ggh'k Ufž'XYf'gY]bY  
6Yk i gghgY]bg`U[ Y`k À\fybX'XYf'HUHyb`VYY]bZi gghY"

⇒a `DfcnYgg'k i fXYb`VYYbZU`g`nk Y]k Y]hYfY'Ub[ Y'\_U[ hY': À`Y'j cb  
?ÒfdYfj Yf'Yhni b[ 'Ub[ YgdfcWYb''8]YgY'V`]YVYb`YXcW`c`bY  
6YfØW\_g]W]h[ i b[ ž'XU`X]Y'6Yk Y]gY'ZØf`X]Y'GWi`X'XYg'A UbbYg  
b]W`hY]bXYi h[ `k UfYb''8]Yg'k ]fZh': fU[ Yb'ni f'↑ gh]n]Y`Yb  
6Yk Y]gZØ\fi b[ 'Ui Z`]bgVYgcbXYfY'j]b': À`Yb'a ]h'a Y\fyfYb  
J cfk ØfZYbž'k c`XYf'B UWk Y]g'Y]bYf'VYgh]a a hYb`HUhgWk ]Yf][  
gY]b'\_Ubb"

8Yf': U`nY][ hY]bXfØW`\_]W`X]Y'?ca`d`YI ]h`h'i bX`X]Y`F ]g]\_Ybž'a ]h  
XYbYb`G]WYf\Y]hgVY\ØfXYb`j]b'5i ZbU`a YnYbhfYb`\_cbZfcbh]Yfh  
g]bX''8]YgY'9]bf]W]hi b[ Yb`X]YbYb`b]W`h'bi f'U`g'HfUbg]hc`fhY'ZØf  
A YbgWYb`Ui Z'XYf`Gi W`Y`bUW`5gmž'gcbXYfb`g]bX`Ui W` [ YdfÀ[ h  
j cb`dc`]h]gWYbž'gcn]U`Yb`i bX`dgmWk`c`c[ ]gWYb`GdUbbi b[ Ybž'X]Y  
g]W`j]b[ Yk U`hgUa Yb`J cfZÀ`Yb`Yb`h`UXYb`\_ØbbYb"

8]Y'9bhgWY]Xi b[ `XYg'; Yf]W`hg']gh'Y]b`k ]W]h[ Yf`GW`f]h]b`XYf  
fYW`h]WYb`5i ZUfVY]hi b[ `X]YgYf' [ Yk U`h`h]h[ Yb  
5i gY]bUbXYfgYhni b[ `i bX`\_ØbbhY'Xi fW`Ui g`U`g`G][ bU`Ub`UbXYfY  
dchYbn]Y`Y`H`hYf'[ Yk YfhY`h`k YfXYbž'XUgg'gc`W`Y`HUHyb`Yfbgh`UZhY  
↑ f]gh]gWY'?cbgYei YbnYb`bUW`g]W`n]Y`Yb''8]Y'gcZcfh][ Y  
F YU\_h]cb`XYg'; Yf]W`hg'gd]W`h`ZØf`X]Y`B`chk YbX][ \_Y]hž'X]Y  
G]WYf\Y]h'gck c`\`XYf'5b[ YghY`hYb`U`g`Ui W`XYf'5gm`gi WYbXYb  
]b`gc`WYb`9]bf]W]hi b[ Yb`ni` [ Yk À\fy]ghYb"

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