

## K i hUi gVfi W\ ]b < Ua a . '\* \$! >À\ f][ Yf fUghYh'bUW\ '6` ]hnYfU\_h]cb 'Ui g

9]b '\* \$! >À\ f][ Yf'Ui g< Ua a 'k i fXY'k Y[ Yb'5 [ [ fYgg]cbYb bUW\ 'Y]bYf'F UXUf\_cbhfc``Y'j cf'; Yf]W\ h[ YghY``hž'gY]bY'HUhYb ZØ\ fhYb'ni 'Y]bYa 'HY]'ZfY]gd fi W\ "

⇒ a : fØ\ 'U\ f'&\$&( 'Ua 'Yg]'b < Ua a 'ni 'Y]bYa 'J cfZU``ž'XYf'X]Y ; Ya ØhYf'Ui Z\Y]nhY'i bX'X]Y'; fYbnYb'XYg'9fhfU[ VUfYb' ]b'XYf 8]g\_i gg]cb'i a 'J Yf\_Y\fgg]W\ Yf\Y]h'i bX'dYfgØb`]W\ Y'; fYbnYb Ui ZnY][ hY''9]b '\* \$! >À\ f][ Yf'\UhhY'bUW\ 'Y]bYf'6`]hnYfU\_h]cb'XYf GhUXh'j Ø``][ 'X]Y'BYfj Yb'j Yf'cfYb'i bX'a i gghY'g]W\ 'Yhnh'j cf ; Yf]W\ h'j YfUb'hk cfhYb''8]Y'9fY][ b]ggY'ZUbXYb' ]\fYb'i fgdfi b[ 'Ua +''; YVfi Uf'&\$&( ž'U'g'XYf'5b[ Y\_'U[ hY'Ui Z'gY]bYa 'K Y[ 'ni f'5fVY]h ]b'6cW\_i a !< Ø] Y''[ YV']hnh'k i fXY"

K À\ fYbX'XYf'; Yf]W\ hgj Yf\UbX'i b[ 'Ua ' &\$''5i [ i gh'&\$&( 'k Uf'XYf 6Yk Y]g'ZØf'XYb'Ya ch]cbU'Yb'5i gbU\ a Yni ghUbX'XYg'A UbbYg cZZYbg]W\ h]W\ "A ]hY]bYa 'i bfi \][ Yb'GhUffYb'i bX'gdcfUX]gW\ Yb 6Yk Y[ i b[ Yb'k ]f\_hY'XYf'5b[ Y\_'U[ hYž'U'g'k ØfXY'Yf']b'; YXUb\_Yb ]a a Yf'k ]YXYf'Ui Z'XYb'VYgU[ hYb'a cf[ Yb'ni fØW\_V`]W\_Yb''GY]bY \_'UfY'5VbY][ i b[ ' [ Y[ YbØVYf'XYf'6`]hnYfU\_h]cb'k Uf'XYi h]W\ gdØfVUf'' 9g'k Uf'Y]bZUW\ 'XfY]ghž'XUgg') \$'A YhYf'j cf'XYa C fhgUi g[ Ub[ ggW\]'X'gc'Y]bY'?'cbhfc``Y'Xi fW\ [ YZØ\ fh'k i fXY ž Ài »YfhY'Yf'g]W\ 'ncfb][ "

## 8 ]Y '9g\_U`Uh]cb 'XYf'G]hi Uh]cb

8 ]Y'G]hi Uh]cb'Yg\_U']YfhYž'U'g'XYf'\* \$! >À\ f][ Y'ØVYffYU[ ]YfhY''8Yf \c\Y'5VfYW\bi b[ gdfY]g]j cb'a Y\ f'U'g%, "\$\$\$'9i fc'ZØf'X]Y VYgW\ÀX][ hY'6`]hnYfUb`U[ Y'nY][ hY'XYb'k ]fhgW\UZh]W\ Yb'GW\ UXYbž XYb'gY]b'K i hUi gVfi W\ 'j Yfi fgUW\hY''Ni gÀhn`]W\ 'YfgW\ fYW\_YbX'k Uf

X]Y`5 [ [ fYgg]j ]hĀhž'a ]h'XYf'Yf'Ui Z'XYb'ghĀXh]gWk Yb`A ]hUfVY]hYf  
fYU[ ]YfhYž'XYf'a`Dfc nYgg'U`g`BYVYb\_`Ā[ Yf'Ui ZhfUh"8 Yf  
5b[ Y\_`U[ hY` \ UhhY`b]Wk h'[ YnĀ[ Yfhž'gY]b` : U\fnYi [ `]b`F]Wk hi`b [ `XYg  
A UbbYg'ni`ghYi Yfbž'k Ug`X]YgYb`]b`DUb[\_]j YfgYhnhY" `Wk` \ UhhY  
5b[ gh'i a`'a`Y]b`@YVYb`ž'gWk`XYfhY`XYf`A ]hUfVY]hYf`gY]bY  
9a`ch]cbYb`k`Ā\fYbX`XYg`J`cfZU`gž`U`g`Yf`j`Yfgi`Wk`hYž'g]Wk`]b  
G]Wk`Yf\Y]h'ni`Vf]b[ Yb"

8 Ug`[ YZĀ\`f`]Wk`Y`A`Ub`Āj`Yf`XYg`5b[ Y\_`U[ hY`b`ZĀ\`fhY`XUni`ž`XUgg`XYf  
BYVYb\_`Ā[ Yf'Ui ZY]bYa`bUggYb`i`bhYf[ fi`bX`Ui`gfi`hgWk`hY`i`bX`g]Wk  
Ua`6Y]b`j`Yf`YhnhY"GY]hYa`Y]XYh`Yf`i`bhYf`dgmWk]gWk`Yb  
DfcV`Ya`Ybž`X]Y`]b`UfVY]hgi`bZĀ\`[ `a`UWk`Ybž'i`bX`ZĀ\`fhY]bY  
H\YfUd]Yž'i`a`gY]bY`Yb[ ghY`ni`VYk`Ā`h][ Yb" `Wk`k`Y]`b]Wk`hž`c`V`]Wk  
Ya`U`g`k`]YXYf`]b`a`Y]bYb`x`V`ni`fĀW`\_`Y\`fYb`\_`Ubb`ž`gU[ hY`Yf  
VYXfĀW`h`k`Ā\`fYbX`XYg`J`YfZU`fYbg"

## 8 Ug`i`fhY]`

8 Yf`F`]Wk`hYf`ghY`hY`]b`XYf`5b\`Āfi`b[ ` \_`Ufž`XUgg`X]Y`J`cfk`ĀfZYž`X]Y  
g]Wk`Ui`Z`X]Y`GhĀfi`b[ `ĀZZYb`h]Wk`Yf`6Yhf]YVY`]b`HUhY]b\Y]h'a`]h  
B`Āh][ i`b[ `VYnc[ Ybž`U`g`VYk`]YgYb`Ub[ YgY\`Yb`k`i`fXYb"8 Ug  
GhfUz`a`U`k`i`fXY`Ui`Z`-\$`HU[ YggĀ`hnY`¼,`\$`9i`fc`ZYgh[ Y`Y[ hž  
ni`gĀ`h`]Wk`a`i`gghY`XYf`A`Ubb`a`]hY]bYa`gYWk`ga`cbUh][ Yb  
: U\`fj`YfV`ch`fYWk`bYb"9g`k`Uf`Y]b`gWk`a`U`Yf`;`fUh`K`Ā`fY`Yf`i`a`bi`f  
Y]bYb`HU[ YggU`h`a`Y\`f`VYghfU`Zh`k`cfXYbž`\`Ā`hY`Yf`Y]bYb  
J`cfghfUZYb`fY[ ]ghY`fY]b`hfU[ ` \_`Ugg]Y`fh"

6YgcbXYfg`Yfk`Ā\`bYbgk`Yfh]ghž`XUgg`X]Y`i`fgdfĀb[ `]Wk`j`cb`XYf  
GhUUhgUbk`U`hgWk`UZh`Yf\`c`VYbY`5b\_`U[ Y`k`Y[ Yb`[ YZĀ\`f`]Wk`Yf  
?ĀfdYfj`Yf`Ymi`b[ `]b]Wk`h'ni`a`HfU[ Yb`\_`Ua`"8]Yg`U[ `XUfUbž`XUgg  
XYf`BYVYb\_`Ā[ Yf`g]Wk`Ub`k`YgYbh]Wk`Y`8YhU]gž`k`]Y`Yhk`U`X]Y  
; YgWk`]bX][ \_Y]hž'a`]h'XYf'Yf'Ub[ YZU`fYb`k`i`fXYž`b]Wk`h'a`Y\`f  
Yf]bbYfb`\_`cb`bhY"8]Y`UVgWk`]Y`Y`bXYb`K`cfhY`XYg`F`]Wk`hYfg  
i`bhYfghf]Wk`Yb`X]Y`9fbgh\`UZh][ \_Y]h'XYf`G]hi`Uh]cb.`9g`XĀfZhY`ZĀf  
YXYb`\_`Uf`gY]bž`XUgg`k`]f`Y]b`gc`Wk`Yg`J`Yf\`U`hYb`]b`i`bgYfYf  
; YgY`gWk`UZh`b]Wk`h`gY\`Yb`k`c`Yb"8 Ug`i`fhY]`]gh`XYfnY]h`bc`Wk  
b]Wk`h`fYWk`hg`fĀZh][ "

; YgY`gWk UZh`]Wk Y`=a d`\_]Uh]cbYb

8Yf': U`VY`Yi WkhYh'k ]Y`Ya ch]cbU`Y` , VYffYU\_h]cbYb`ja  
GhfU» Ybj Yf\_Y`f`b]Wkh`bi f`ni `dYfgOb`]WkYb`DfcV`Ya Yb`Z0\fyb  
\_ObbYbž`gcbXYfb`Ui Wk`ni `Yf\YV`]WkYb`Z]bUbn]Y`Yb`?cbgYei YbnYb  
Z0f`X]Y`6YhY`][ hYb"8Yf`J cfZU``\_ObbhY`U`g`Y]b`K YW\_fi Z]b`XYf  
8YVUhhY`0VYf`X]Y`G]WkYf\Y]h`j cb`J Yf\_Y`fg\_cbhfc``Yb`i bX`XYfYb  
5i gk ]f\_i b[ Yb`Ui Z`X]Y`DgmWk`c`c [ ]Y`XYf': U`fYf`Ub[ YgY`Yb  
k YfXYb"K Ybb`Ui g`Y]bYa `j Yfa Y]bh`]WkYb`J Yfgbc» ` [ Y[ Yb`X]Y  
J Yf\_Y`fgfY[ Y`b`gc`Wk`XfUa Uh]gWkY`?cbgYei YbnYb`fYgi `h]YfYb  
\_ObbYbž`k ]fZh`X]Yg': fU[ Yb`ni f`5b[ Ya YggYb\Y]h`i bX`ni f  
Bch`k YbX][ \_Y]h`j cb`J Yf\_Y`fg0VYfk UWk`i b[ Yb`Ui Z`8]Y`8]g\_i gg]cb  
0VYf`XUg`f]Wk]h[ Y`A U» `Ub`?cbhfc``Y`i bX`XYb`f]Wk]h[ Yb`i a [ Ub[  
a ]h`gc`WkYb`G]h`i Uh]cbYb`]gh`gca ]h`U`hi Y`Yf`XYbb`Y"

< ]bhYf[ fi bX`XYf`F UXUf\_c bhfc``Yb`]b

8Yi hgWk`UbX

≠8Yi hgWk`UbX`g]bX'; YgWk`k ]bX][ \_Y]hg\_cbhfc``Yb`Y]b`nYbhfU`Yg  
≠ghfi a Ybh`ni f`J Yf\_Y`fgg]WkYf\Y]h"8]Y`fYWk]WkYb`; fi bX`U[ Yb  
Z0f`X]Y`8i fWk Z0\fi b[ `X]YgYf`?cbhfc``Yb`g]bX`ja  
GhfU» Ybj Yf\_Y`fg[ YgYh`fGhJ ; Ł`i bX`XYf`GhfU» Ybj Yf\_Y`fgcfXbi b[  
fGhJ CŁ`j YfUb\_Yfh"n]Y`X]YgYf`F Y[ Y`i b[ Yb`]gh`Ygž`i bZ`Y`ni  
j Yfa Y]XYbž`X]Y`Xi fWk`0VYf\0`hY'; YgWk`k ]bX][ \_Y]h`Yb`hghY`Yb"  
@Ui h`XYf`8Yi hgWkYb`J Yf\_Y`fgk UWk`h`k UfYb  
; YgWk`k ]bX][ \_Y]hg0VYfgWk`fY]h`i b[ Yb`]a `ł\`f`&\$&&Z0f`Yhk U" \$`i  
XYf`J Yf\_Y`fgi bZ`Y`i bX`&\$`i `XYf`J Yf\_Y`fgchYb`j YfUb`hk c`fh]Wk"

I a `: U`fYfb`X]Y`9]b\U`hi b[ `XYf'; YgWk`k ]bX][ \_Y]hgVY[ fYbni b[ Yb  
ni `Yf`Y]WkhYfbž`k YfXYb`gck c`a`cV]Y`U`g`Ui Wk`ghUh]cb`ÅfY`6`]hYf  
Y]b[ YgYhnhž`XYfYb`5i ZghY``i b[ `[ YbUi `[ YfY[ Y`h]gh"8]YgY  
A U» bU`a Yb`gc``Yb`XUni `VY]hfU[ Ybž`Y]b`g]WkYfYg`i bX  
j YfUb`hk c`fhi b[ gj`c``Yg': U`fYb`ni `Z0fXYfb"8]Y`?f]h]\_ž`XUgg`gc`WkY  
?cbhfc``Yb`cZ`di b`\_hi Y``i bX`b]Wk`h`Z`WkYbXYW\_YbX`Xi fWk [ YZ0\fh  
k YfXYbž`]gh`Y]b`gh`ÅbX][ Yf`6Y[ `Y]hYf`XYf`8]g\_i gg]cb`i a  
J Yf\_Y`fgg]WkYf\Y]h"

; YgYhn`]W\ Y `? cbgYe i YbnYb `VY]

K i hUi gVfØW\ Yb `]a `GhfU» Ybj Yf\_Y\ f

8]Y`† f]gh]gW\ Yb `: c`[ Yb `Y]bYg`K i hUi gVfi W\ g`]a `GhfU» Ybj Yf\_Y\ f  
\_ÖbbYb `[ fUj ]YfYbX`gY]b`"8Yf`\\Yf`Ub[ Y`\_U[ hY`\* \$!`Ä\ f][ Y`k i fXY  
ZØf`gY]bY`HUHb`a` ]h`Y]bYf`; Y`XghfUZY`i bX`Y]bYa` : U\ fj YfVch  
VY`Y[ h`" ð`8Yi hgW\ `UbX`[ ]Vh`Yg`\_`UfY`fYW\ h`]W\ Y  
F U\ a` YbVYX]b[ i b[ Ybž`X]Y`gc`W\ Yg`J Yf\ U`hYb`gUb\_h]cb]YfYb`"9]b  
5b[ f]Z`cXYf`X]Y`6YXfc`\\i b[ `j cb`DYfgcbYbž`Y[ U`cV  
J Yf\_Y\ fghY`]bY\ a` Yf`cXYf`A` ]hUfVY]hYf`XYf`GhUXhž`ZÄ`h`i bhYf`XUg  
GhfUZfYW\ h`i bX`\_Ubb`U`g`[ YZÄ\ f`]W\ Y`? ÖfdYfj Yf`Yhni b[ `] Yk YfhY  
k YfXYb`"8]Y`GhfU] YfZc`[ i b[ `\_Ubb`]b`gW\ k YfYb` : Ä`Yb`gc[ Uf`ni  
< UZhghfUZYb`ZØ\ fYb`"

Ni XYa` \UVYb`gc`W\ Y`U[ [ fYgg]j Yb`J Yf\ U`hYb`gk Y]gYb`Ub[ Zf]gh][ Y  
: c`[ Yb`ZØf`X]Y`6YhfcZZYbYb`"J]Y`Y`CdZYf`j cb  
J Yf\_Y\ fgk i hUi gVfØW\ Yb `Y]XYb`i bhYf`dgmW\ ]gW\ Yb`6Y`Ughi b[ Ybž  
X]Y`Y]bY`dgmW\ c`c[ ]gW\ Y`6Y\ UbX`i b[ `YfZcfXYf`]W\ `a` UW\ Yb  
\_ÖbbYb`"; Ya` Ä» `Y]bYf`Ghi X]Y`XYg`8Yi hgW\ Yb `: UW\ j YfVUbXg`ZØf  
DgmW\ ]Uhf]Y`i bX`DgmW\ ch\ YfUd]Y` \UVYb`J Yf\_Y\ fgi bZÄ`Y`i bX  
Ä\ b`]W\ Y`J cfZÄ`Y`\ Äi Z][ `Ub[ Zf]gh][ Y`5i gk ]f\_i b[ Yb`Ui Z`XUg  
dgmW\ ]gW\ Y`K` c\ `VYZ]bXYb`XYf`6YhfcZZYbYb`"

GhUh]gh]\_Yb `ni `J Yf\_Y\ fgi bZÄ`Yb `i bX

5 [ [ fYgg]cb `]a `GhfU» Ybj Yf\_Y\ f

5\_hi Y`Y`GhUh]gh]\_Yb `nY][ Yb `Y]bYb`VYgc f[ b]gYffY[ YbXYb`5bgh]Y[  
j cb`U[ [ fYgg]j Ya` J Yf\ U`hYb`]a `GhfU» Ybj Yf\_Y\ f`"@Ui h`XYa  
GhUh]gh]gW\ Yb `6i bXYgUa` h`[ UV`Yg`]a` `U\ f`&\$&&`ØVYf`&ž`A` ]`cbYb  
fY[ ]ghf]YfhY`J Yf\_Y\ fgi bZÄ`Y`]b`8Yi hgW\ `UbXž`k Ug`Y]bYa` `5bgh]Y[  
j cb`Yhk U`ž`i` `]a` J Yf[ `Y]W\ `ni a` J cf`U\ f`Ybhgd f]W\ h`i bhYf  
X]YgYb`i bZÄ`Yb`g]bX`Yhk U`+ž&`i` `Ui Z`U[ [ fYgg]j Yg` : U\ fj Yf\ U`hYb  
ni fØW\_ni ZØ\ fYbž`k Ug`Y]bYb`g][ b]Z`UbhYb`5bhY`]`Ui ga` UW\ h`"

Ni gÄhn`]W\ `nY][ h`Y]bY`i a` ZfU[ Y`XYg`5857`Ui`g`&\$&`ž`XUgg`YXYf  
Xf]hhY`5i hcZU\ fYf`5 [ [ fYgg]cbYb`]a `GhfU» Ybj Yf\_Y\ f`Yf`YVh`\ Uh  
cXYf`gY`Vgh`U[ [ fYgg]j `fYU[ ]Yfh`8]YgY`9bhk ]W`i b[ `k Y]gh`Ui Z

Y]bYb`Xf]b[ YbXYb`<UbX`i b[ gVYXUfZ`]bg]W`h`]W`  
J Yf\_Y`fgYfn]Y`i b[ `i bX`XYf` : ÒfXYfi b[ `Y]bYg`fYgdY\_hj c``Yb  
A ]hY]bUbXYfg`]a `GhfU»Ybj Yf\_Y`f`>`]b" `A U» bU`a Yb`ni f`9f`Ò`i b[  
XYf`J Yf\_Y`fgg]W`Yf`Y]h`g]bX`b]W`h`bi f`Ui Z`hYW`b]gW`Y`?cbhfc``Yb  
Ub[ Yk ]YgYbž`gcbXYfb`YfZcfXYfb`Ui W`Y]bY`GYbg]V`]`g]Yfi b[ `XYf  
J Yf\_Y`fghY]`bY`a Yf`ZØf`Y]b`fYgdY\_hj c``Yg` : U`fj Yf`U`hYb"

8YhU]`g

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