

F c`YfZU\ fYf'j Yf`Yhnh.  
F Yhhi b[ g\i VgW\ fUi VYf']a '9]bgUhn`VY]  
I bZU``]b`K c`Z[ Y`hg

9]b`%\*!`A\ f][ Yf`F c`YfZU\ fYf'k i fXY`bUW\`Y]bYa  
Ni gUa a Ybghc»`a ]h`Y]bYa `HfU\_`hcf`]b`?`»`Y[ [ `gW\k Yf  
j Yf`Yhnh`i bX`dYf`<i VgW\ fUi VYf']bg`? fUb\_Yb\Ui g`[ YZc[ Yb"

?`»`Y[ [ `#K c`Z[ Y`hg

5a `8]YbghU[ bUW\ a ]hU[ `YfY][ bYhY`g]W\`Y]b`gW\k YfYf  
J Yf\_Y\ fgi bZU``ž`XYf`Y]bYb`%\*!`A\ f][ Yb`F c`YfZU\ fYf'i bX`Y]bYb  
%, !`A\ f][ Yb`HfU\_`hcfZU\ fYf']bj c`j ]YfhY``8Yf`I bZU``ZUbX`[ Y[ Yb  
%( .%) `I \f`]a `K`Y]`Yf`K c`Z[ Y`hg`ghUhz`U`g`XYf`đ [ YbX`]W\Y`]b`Y]bYf  
\_f]h]gW\Yb`G]hi Uh]cb`j Yfgi W\hYž`Ui g`F ]W\hi b[ `9[ [ Yb`fYW\hg  
UVni V]Y[ Yb``; `Y]W\`nY]h][ `b`A\`YfhY`g]W\`XYf`HfU\_`hcfZU\ fYf`a ]h  
gY]bYa `: U\fnYi [ `i bX`Y]bYa `Ub[ YgW\`cggYbYb`A`A\k Yf\_`Ui g  
F ]W\hi b[ `I bhYf\cf[ Yb"

Hfchn`Y]bYf`gcZcfh][ Yb`J c`VfYa`gi b[ `i bX`Y]bYa  
5i gk Y]W\ a Ub`0j Yf`[ Y`Ub[ `Yg`XYa `F c`YfZU\ fYf`b]W\hž`Y]bYf  
?c``]g]cb`ni `Ybh\_ca`a Yb``9f`dfU``hY`[ Y[ Yb`XUg`A`A\k Yf\_`XYg  
HfU\_`hcf`gi bX`nc[ `g]W\`Yfbgh\UZhY`J Yf`Yhni b[ Yb`Ub`XYb`6Y]bYb`ni "  
5i Z[ fi bX`XYf`GW\k YfY`gY]bYf`J Yf`Yhni b[ Yb`k i fXY`XYf  
đ [ YbX`]W\Y`a ]h`Y]bYa `F Yhhi b[ g\i VgW\ fUi VYf`]b`Y]bY  
bU\Y[ Y`Y[ YbY`?`b]\_`[ YVfUW\h``8]Y`a YX]n]b]gW\Y`J Yf`gc`f[ i b[ `k Uf  
Xf]b[ YbX`YfZcfXYf`]W\ž`i a `X]Y`J Yf`Yhni b[ Yb`ni `VY\UbXY`b"

8 YhU]`g`ni a `I bZU``\ Yf[ Ub[

8]Y`I a gh`AbXY`XYg`i bZU``g`k YfZYb`: fU[ Yb`Ui Zž`X]Y  
a `0[ `]W\Yfk Y]gY`Ui Z`J Yf\_Y\fg!`i bX`G]W\Yf\Y]hgdfcV`Ya`Y`]b

ĀbX`jWYb` ; YV]YhYb` \]bk Y]gYb` "9g`]gh`b]W`hi b [ Yk Ò\ b`]W`ž`XUgg  
`UbXk ]fhgW`UZh`]W`Y` : U\fnYi [ Yž`]bgVYgcbXYfY` ]b`NY]hYb`k ]Y`XYa  
9fbhYVYhf]YVž`\Äi Z[ Yf`Ui Z`XYb`GhfU» Yb`Ubni hfYZZYb`g]bX`"8]Yg  
\_Ubb`VYXYi hYbž`XUgg`Yg`Zøf` : U\fyf`j cb`Nk Y]fAXYfb`cXYf`UbXYfYb  
\_Y]bYfYb` : U\fnYi [ Yb`ni` [ YZÅ\ f`]W`Yb`G]hi Uh]cbYb`\_ca a h"

8]Y`Dc`]nY`[ UV`VY`\_Ubbhž`XUgg`XYf`GUW`gW`UXYbž`XYf`Xi fW`X]Y  
?c`]g]cb`YbghgUbXž`fY`Uh]j` [ Yf]b[ `Ui`gZ]Y`"8]Yg`\_ÖbbhY`U`g  
dcg]hj`Yg`NY]W`Yb` [ Yk YfhYh`k YfXYbž`XU`XYf`GW`k Yfdi b`\_h`XYg  
JcfZU`g`Y]bXYi h][ `Ui Z`XYb`J Yf`Yhni b [ Yb`XYg` : U\fyfg`]Y[ h`"8]Y  
JYf`\_Y\fgg]W`Yf\Y]hg`U[ Y`]b`XYf`FY [ ]cb`gc`hY`YXcW`gc f[ ZÅ`h][  
VYcVUW`hYh`k YfXYbž`]bgVYgcbXYfY`]b`6Yni [ `Ui Z`XYb`I a [ Ub[ `a ]h  
@UbXk ]fhgW`UZhg[ YfÅhYb`i bX`XYfYb`G]W`hVUf`\_Y]h`Ui Z`XYf`GhfU» Y"

- J Yf`YhnYbXY`DYfgcb. `!\*!`Å\ f][ Yf`Fc`YfZU\fyf`
- J Yfi fgUW`YbXY`DYfgcb. `% !`Å\ f][ Yf`HfU`\_hcfZU\fyf`
- I bZU`nY]h. `%( .%) `I \f`
- Cfh. `K c`Z[ Y`hgž`?]» `Y[ [
- J Yf`Yhni b [ Yb. `GW`k YfY`6Y]bj Yf`Yhni b [ Yb`VY]a  
Fc`YfZU\fyf`
- 5bnY]W`Yb`Zøf`gW`bY`Yg`< UbXY`b. `HfUbgdcfhY`Xi fW`  
FYhhi b[ g\i VgW`fUi VYf`]b`?`]b]\_

## 8]Y`6YXYi hi b [ `XYf`J Yf`\_Y`f`gg]W`Yf`Y]h

8]YgYf`JcfZU`gh`Y]b`XYi h]W`Yf`<]bk Y]g`Ui Z`X]Y`Xf]b [ YbXY  
Bchk YbX][ \_Y]hž`XUg`6Yk i gghgY]b`Zøf`J Yf`\_Y`f`gg]W`Yf`Y]hgZfU[ Yb  
ni `gW`ÅfZYbž`]bgVYgcbXYfY`]b` ; YV]YhYbž`]b`XYbYb  
`UbXk ]fhgW`UZh`]W`Y` : U\fnYi [ Y`Å`Äi Z[ `i bhYfk Y[ g`g]bX`"8]Y  
; YZU\fybž`X]Y`Y]b`HfU`\_hcf`a ]h`Y]bYa`A`Å`k Yf`\_XUfghY`hž`k YfXYb  
cZi`i bhYfgW`Åhnh`"9g`]gh`k ]W`h][ ž`XUgg`gck c`\` : U\fyf`j cb  
: U\fnYi [ Yb`U`g`Ui W`F`UXZU\fyf`g]W`XYf`dchYbn]Y`Yb`F]g]\_Yb  
VYk i ggh`g]bX`i bX`j c fUi ggW`Ui YbX`\UbXY`b"

8U`]a a Yf`a Y\ f`A YbgW`Yb`]b`ĀbX`]W`Yb` ; Y [ YbXYb`YVYb`i bX  
X]YgY`\Äi Z[ `a ]hi bhYfgW`YX`]W`Yb` : U\fnYi [ Yb`VYZU\fybž`\_ÖbbhY  
XYf`6YXUfZ`Ub`5i Z`\_Äfi b [ `i bX`GW`i`i b [ `]b`6Yni [ `Ui Z  
JYf`\_Y`f`gg]W`Yf`Y]hni bY`a Yb`" ð`GW`i`Ybž`VY]`\_ca a i bU`Yb

J YfUbgH`hi b[ Yb`cXYf`b`Ni gUa a YbUfVY]h'a ]h  
`UbXk ]fhgW UZh]WYb`J YfV`AbXYb`\_`ObbhYb`dfAj Ybh]j Y`A U» bU\ a Yb  
j YfUbgH`hYh`k YfXYbž`i a`X]Y`G]WYf\Y]h`Ui Z`XYb`GhfU» Yb`ni  
Yf\`Ò\Yb`i bX`i bZ`Y`X]YgYf`5fh`ni`j Yfa Y]XYb"

8]Y`gW`bY`Y`F`YU`\_h]cb`XYf`B`chZU`a`YX]n]bYf`i bX`X]Y  
9bhgW`Y]Xi b[ ž`XYb`j Yf`YhnhYb`F`c`YfZU`fYf`a`]h`Y]bYa  
<i VgW`fUi VYf`ni`hfUbgdcfh]YfYbž`nY][ Yb`ni XYa`X]Y`9Z]n]Ybn`XYg  
F`Yhi b[ gX]YbghYg`i bX`X]Y`B`chk`YbX][`\_Y]hž`Ui Z`gc`W`Y`G]hi`Uh]cbYb  
Ub[ Ya YggYb`ni`fYU[ ]YfYb"

## I bZU`ghUh]gh]\_`]a`GhfU» Ybj Yf`\_Y`f

J Yf`\_Y`fgi bZ`Y`g]bX`j]b`8Yi hgW`UbX`bUW`k ]Y`j`cf`Y]b  
VYXYi hYbXYg`DfcV`Ya`"@Ui h`XYf`GhUh]gh]gW`Yb`6i bXYgUa`h`[ UV  
Yg`ja`f`&`\$`&`%`ØVYf`&ž( `A`j`]cbYb`J Yf`\_Y`fgi bZ`Y`ž`k`cVY]`Yhk`U  
`\$`\$`\$`DYfgcbYb`j Yf`Yhnh`i bX`ØVYf`" `"\$`DYfgcbYb`[ Yh`Øh`h  
k`i`fXYb`"8]Y`i bZU`i fgUW`Yb`g]bX`j ]Y`Z`h][ ž`XUfi bhYf`ØVYf\`Ò\hY  
; YgW`k ]bX][`\_Y]hž`5`\_c`c`Ua`GhYi Yf`i bX`i bUW`hgUa`Yg`i`U`fYb`"  
6YgcbXYfg`[ YZ`fXYh`g]bX`gW`k`ÅW`YfY`J Yf`\_Y`fghY]`bY`a`Yfž`k`jY  
F`UXZU`fYf`i bX`A`c`hc`ff`UXZU`fYfž`X]Y`j]b`XYb`YhnhYb`f`Yb`Y]bYb  
5bgh]Y[ `XYf`i bZU`nU`Yb`Yf`YVh`UVYb"

⇒a`f`&`\$`&`VYf]W`hYhYb`X]Y`6Y\`ØfXYbž`XUgg`X]Y`NU`XYf  
j Yf`YhnhYb`A`c`hc`ff`UXZU`fYf`ja`J Yf[ `Y]W`ni`XYb`J`cf`U`fYb`i`a`i`i  
[ Ygh]Y[ Yb`]gh`8]Yg`k ]fZh`Y]b`@]W`h`Ui Z`X]Y`B`chk`YbX][`\_Y]h]`cb  
G]W`Yf\Y]hga`U» bU`a`Ybž`Y]bgW`]Y»`]W`]bhYbg]j YfYf`5i Z`\_`Åfi b[  
i bX`XYf`J YfVYggYfi b[ `XYf`J Yf`\_Y`fg]bZ`fUghfi`\_hi`f"

## F YW`h`]W`Y`5gdY`\_hY`bUW`J Yf`\_Y`fgi bZ`Y`b

⇒a`XYi hgW`Yb`F`YW`hggmghYa`g]bX`X]Y`F`Y[ Y`i b[ Yb`ni  
J Yf`\_Y`fgi bZ`Y`b`\_`Uf`XYZ]b]Yfh`B`UW`z`%`XYg  
GhfU» Ybj Yf`\_Y`fg[ YgYhnyg`fGh] ; Ěg]bX`U`Y`J Yf`\_Y`fghY]`bY`a`Yf  
j YfdZ]W`hYhž`g]W`gc`ni`j Yf`U`hYbž`XUgg`g]Y`UbXYfY`b]W`h  
[ YZ`fXYb`"6Y]`Y]bYa`i bZU`\_`ObbYb`j YfgW`jXYbY`fYW`h`]W`Y  
?cbgYei YbnYb`YbghY`Ybž`XUfi bhYf`XUg`J YfZUggYb`Y]bYg  
I bZU`VYf]W`hg`i bX`a`Ò[ `]W`Yfk`Y]gY`X]Y`9]b`Y]hi b[ `Y]bYg

9fa ]hhi b[ gj YfZU\ fYbgž'gcZYfb'Y]b'J Yfghc» '[ Y[ Yb'X]Y  
J Yf\_Y\fgfY[ Y'b'j cf']Y[ h"

æ : U`Y`Y]bYg'DYfgcbYbgW\UXYbg' \_ÖbbYb'5bgdfØW\Y`Ui Z  
GW\UXYbgYfgUhn'[ Y`hYbX'[ Ya UW`h'k YfXYbž'k Ug'X]Y  
a YX]n]b]gW\Yb'?cghYb'gck ]Y`XYb'J YfX]YbghUi gZU``ZØf'X]Y  
j Yf`YhnhY`DYfgcb`VY]b\U`hYh" ð`X]YgYf'gdYn]Y``Yb'G]hi Uh]cbž' ]b`XYf  
Y]b'F c``YfZU\ fYf'a ]h'Y]bYa `HfU`hcf`\_c``X]Yfh' ]ghž'k ]fX' ]b`XYf`FY[ Y`  
i bhYfgi W\hž'cV`XYf': U\ fYf`XYg`HfU`hcf'g'X]Y`J Yf\_Y\fgg]hi Uh]cb  
\_cffY`\_h'Y]b[ YgW\`Änh'\Uhž'VYj cf`Yf'X]Y`GhfU» Y`ØVYfei YfhY``8 ]Y  
: YghghY``i b[ 'j cb`GW`i`X`]gh'Y]b`k ]W\h][ Yf`6YghUbXhY]`XYf  
fYW\h]W\Yb'5i ZUfVY]hi b[ 'gc`W\Yf`I bZÄ``Y"

## A U» bU\ a Yb'ni f'J Yf\_Y\fgg]W\ Yf\Y]h

5b[ Yg]W\hg`XYf'ghY][ YbXYb`i bZU``nU\`Yb`]gh'Yg`YbhgW\Y]XYbXž  
YZZY`\_hj Y`A U» bU\ a Yb`ZØf'X]Y`J Yf\_Y\fgg]W\ Yf\Y]h'ni`Yf[ fY]ZYb"  
ð]h]Uh]j Yb`k ]Y`X]Y`8 Yi hgW\Y`J Yf\_Y\fgg]W\ Yf\Y]hgfUh'fB J F Ł  
i bX`j YfgW\]YXYbY``c`\_U`Y'? Ua`dU[ bYb'j Yfgi W\Ybž`ÖZZYbh]W\Y  
6Yk`i gghgY]bgV]`Xi b[ 'ni`gW\UZYb`i bX`X]Y`G]W\ Yf\Y]h'Ui Z`XYb  
GhfU» Yb'ni`j YfVYggYfb" J Yf\_Y\fggW\i`i b[ Ybž  
; YgW\k ]bX][ \_Y]hgØVYfk UW\i b[ 'i bX`X]Y`Bi hni b[ 'j cb'g]W\ YfYfYb  
: U\fnYi [ hYW\bc`c [ ]Yb'g]bX`HY]`X]YgYf'6Ya Ø\i b[ Yb"

9]b`k ]W\h][ Yf`5gdY`\_h' ]gh'Ui W\`X]Y': ÖfXYfi b[ `XYg`6Yk`i gghgY]bg`ZØf  
X]Y'; YZU\ fYbž'X]Y]bgVYgcbXYfY`ZØf`A chcffUXZU\ fYf'i bX  
Nk Y]fUXZU\ fYf`VYghY\Yb"8 ]YgY'; fi`ddYb'g]bX`UbZÄ``][ Yf`ZØf  
gW\k YfY`J Yf`Yhni b[ Yb`VY]`i bZÄ``Ybž'i bX`gdYn]Y``Y  
5i gV]`Xi b[ g`\_i fgY`gck ]Y`ðZcfa Uh]cbYb`ØVYf'g]W\ YfY  
: U\fhYW\b]\_Yb`\_ÖbbYb`\Y`ZYbž'XUg`F ]g]\_c`ni`j Yfa ]bXYfb"

8 ]Y`9]b\U`hi b[ 'j cb'; YgW\k ]bX][ \_Y]hgVY[ fYbni b[ Ybž'XUg`HfU[ Yb  
j cb`GW`i hn`\_Y]Xi b[ 'i bX`XUg`Bi hnYb'j cb': U\ffUXk Y[ Yb`gd]Y`Yb  
Y]bY`YbhgW\Y]XYbXY`F c``Y`j b`XYf`DfÄj Ybh]cb`j cb  
J Yf\_Y\fgi bZÄ``Yb"8 ]Y`FY[ ]Yfi b[ 'i bX`j YfgW\]YXYbY  
Cf[ Ub]gUh]cbYb`UfVY]hYb`\_cbh]bi ]Yf`]W\`XUfUbž'X]YgY  
G]W\ Yf\Y]hga U» bU\ a Yb'ni`ghÄf`\_Yb`i bX`i a ni gYhnYb"

8YhU]g

6Ygi W\Yb`G]Y`i bg`Ui Z.`X]Y!bUW\ f]W\ hYb"bYh