

: 77 ' >YbU ]a '8i Y`` [ Y[ Yb '7\Ya b]hn.  
Gd]hnYbfY]hYf'hf]ZZh'Ui Z' < YfUi gZcfXYfYf

: 7'7Uf'`NY]gg' >bU'hf]Zzh'Ua 'A ]hkcW'Ui Z'7\Ya b]hnYf': 7"  
>bU'Z0\fh'a ]h'- 'Di b\_hYb'X]Y'HUVY``Y'Ubž'7\Ya b]hn'k ]`  
ni f0W\_gW`U[ Yb"

5a 'A ]hkcWUVYbX'i a '%- . \$ \$ 'I \f'k ]fX'XUg'GhUX]cb'XYg': 7'7Uf'  
NY]gg' >bU'ni a 'GW'Ui d`Uhn'Y]bYg'gdUbbYbXYb'FY[ ]cbU``[ [Ugd]Y`gž  
k Ybb'XYf'7\Ya b]hnYf': 7'ni ' ; Ugh]gh"8Yf': 77ž'XYf'XYfnY]h'a ]h  
bYi b'Di b\_hYb'Ub'XYf'Gd]hnY'XYf'HUVY``Y'ghY\hž'\_cbbhY'ni `Yhnh  
Y]bYb'0VYfnYi [ YbXYb' . %!G]Y[ ' [ Y[ Yb'XYb' ; fY]Zgk U'XYf': 7  
ZY]Yfbž'k Ug'XYa 'HYUa 'Y]bYb' ]XYU'Yb'GU]gcbghUfh'VYgW'Yfh'\Uh"

⇒ ; Y[ YbgUhn'XUni 'ghY\h'7\Ya b]hnž'XUg'a ]h'j ]Yf'Di b\_hYb'Ui Z  
XYa 'nY\bhYb'D'Uhn'fUb[ ]Yfh"G'Y'Vghj YfghAbX`]W' [ Y\h'Yg'Z0f'X]Y  
A UbbgW'UZh'i a 'HfU]bYf'j cf'U``Ya 'XUfi a ž'X]Y'I bfi \Y'bUW'XYf  
YfghYb'GU]gcb]YXYf'U[ Y'ni '0VYfk ]bXYbž'X]Y'g]Y[ Y[ Yb'XYb' : GJ  
Nk ]W\_Ui '\]bbY\ a Yb'a i gghYb"< ]YfVY]``Y[ h'X]Y' < YfUi gZcfXYfi b[  
b]W'h'bi f' ]b'XYf'5i ZUfVY]hi b[ 'XYf``YhnhYb '@Y]ghi b[ ž'gcbXYfb'Ui W  
XUf]bž'g]W' [ Y[ Yb'X]Y' C ZZYbg]j \_fUZh'XYf' >bUYf'ni 'VY\Ui dhYbž'X]Y  
]b'X]YgYf'GU]gcb'VYfY]hg'nk 0'Z'HcfY'Yfn]Y'h'\Uh"

C ZZYbg]j Y'GhÄf\_Y'i bX'8YZYbg]j Y  
< YfUi gZcfXYfi b[

8]Y'c ZZYbg]j Y '@Y]ghi b[ 'j cb'7Uf'`NY]gg' >bU'[ ]'h'U'g'Y]bY'XYf  
ghÄf\_ghYb' ]b'XYf'FY[ ]cbU``[ U'BcfXcgh'A ]h'Y]bYf'VYY]bXfi W\_YbXYb  
Hcf[ YZÄ\ f' ]W\_Y]hž'X]Y' ]a 'GW'b]h'0VYf'j ]Yf'HcfY'dfc'Gd]Y``VYhfÄ[ hž  
\UVYb'g]Y'g]W'VYfY]hg'Y]bYb'fYgdY\_hUV'Yb'Fi Z'YfUfVY]hYh": 0f'X]Y  
8YZYbg]j Y'XYg'7\Ya b]hnYf': 7'k ]fX'Yg'YbhgW'Y]XYbX'gY]bž'X]Y  
U[ [ fYgg]j Yb'5b[ f]ZY'XYg': 77'ni 'bYi hfU']g]YfYbž'i a 'b]W'h'k Y]hYf

]b`XYf`i bhYfYb`HUVY`Yb\`A`ZhY`ZYghni ZUb[ Yb"

8]Y`>bUYf`C ZYbg]j Yz`Ub[ YZØ\fhj`cb`hU`Ybh]YfhYb`Gd]Y`Yfbž`k ]fX  
g]W\Yf`U`Y`g`XUfUb`gYhnYbž`]fY`9fZc`[ ggYf]Y`Zcfhni`gYhnYb`i`bX`XYb  
<Y]a`j`cfhY`]`Ui`gni`bi`hnYb`"8]Y`7\Ya`b]hnYf`k`YfXYb`XUVY]  
[ YZcfXYfh`gY]bž`X]Y`GhUV`]h`h]b`]\fYf`J`YfhY]X][`i`b[ `ni`Z]bXYb`i`bX  
a`h]gW\`bY`Ya`ž`X]fY`\_hYa`Gd]Y`ni`\_cbhYfbž`i`a`XYb  
K`c\`ZØ\`ZU`\_hcf`XYg`;`Y[`bYfg`ni`ghØfYb"

## 5\_hi`Y`Y`HUVY`Ybg]hi`Uh]cb

A`h`XYb`V]g\Yf][`Yb`UW\`h[`YgUa`a`Y`hYb`Di`b`\_hYb`VY]Z]bXYh`g]W\`XYf  
: `7`7Uf`NY]gg`>bU`]b`Y]bYf`]XYU`Yb`Dcg]h]cbž`i`a`U`g  
HUVY`YbZØ\`fYf`XYb`Hcb`Ubni`[`YVYb`"8Yf`7\Ya`b]hnYf`: `7`\]b[`Y[`Yb  
\Uh`Yg`V]g`Ub[`gW\`k`YfYf`[`Y\UVhž`a`h]b`i`f`j`]Yf`Di`b`\_hYb`Ui`g`XYb  
YfghYb`Gd]Y`Yb`XYb`5bgW\`i`gg`Ub`X]Y`cVYfYb`F`Åb[`Y`b]W\`h`ni  
j`Yf`]YfYb`"8]YgY`?`cbghY`Uh]cb`Yf\`Ø\`h`XYb`8fi`W`\_`Ui`ZX]Y  
7\Ya`b]hnYfž`VYgcbXYfg`]a`<]bV`]W`\_`Ui`ZX]Y`VYj`cfghY\`YbXYb  
Gd]Y`Y"

:`Øf`7\Ya`b]hn`]gh`Yg`k`]W\`h][`ž`G]W\`Yf\`Y]h`ni`[`Yk`]bbYb`i`bX  
j`Y`Y]W\`h`XYb`Y]bYb`cXYf`UbXYfYb`Di`b`\_h`Ui`g`>bU`a`]hni`bY\`a`Yb`  
9]b`G]Y[`k`ÅfY`YbhgW\`Y]XYbX`ZØf`XUg`GY`Vghj`YfhfUi`Yb`XYg`HYUa`gž  
k`Å\`fYbX`>bU`Ui`Z`Y]bY`:`cfhgYhni`b[`gY]bYf`ghUf`\_Yb`:`cfa`\_`Ui`g`]ghž  
i`a`X]Y`HUVY`YbZØ\`fi`b[`\_`Ui`gni`V`Ui`Yb"

8]YgY`6Y[`Y[`bi`b[`]gh`b]W\`h`bi`f`ZØf`X]Y`Gd]Y`Yf`j`cb`6YXYi`hi`b[`ž  
gcbXYfb`\_`Ui`W\`ZØf`X]Y`5b\`Åb[`Yf`VY]XYf`GY]hYbž`X]Y[`YgdUbbh`Ui`Z  
X]Y`@Y]ghi`b[`]fYf`A`UbbgW\`UZhYb`k`UfhYb`"9g`\_`ØbbhY`Y]b  
gdUbbYbXYg`8i`Y`k`YfXYbž`]b`k`Y`W`Ya`X]Y`A`ch]j`Uh]cb`i`bX`XUg  
HYUa`gd]Y`XYf`GW\`ØggY`ni`a`9fZc`[`g]bX"

A`h`6`]W`\_`Ui`ZX]Y`\_`ca`a`YbXYb`Gd]Y`Y`]gh`\_`Ufž`XUgg`VY]XY`HYUa`g  
Y]bY`FYU`\_h]cb`nY][`Yb`a`ØggYb`"7Uf`NY]gg`>bU`a`ØW\`hY`g]W\`]b  
]\fYf`F`c`Y`U`g`HUVY`YbZØ\`fYf`VY\`Ui`dhYbž`k`Å\`fYbX`7\Ya`b]hn`X]Y  
A`Ø[`]W\`\_Y]h\`Uhž`g]W\`]j`cb`XYf`i`bhYfYb`HUVY`Yb\`A`ZhY`ni  
X]ghUbn]YfYb`"9g`V`Y]Vh`UVni`k`UfhYbž`k`]Y`g]W\`X]Y`G]hi`Uh]cb  
Yb`hk`]W`\_Y`b`k`]fX`i`bX`cV`XUg`HYUa`\_`Ui`g`7\Ya`b]hn`]b`XYf`@U[`Y`]ghž

gY]bYf': cfa \_f]gY`Y]b`9bXY`ni`gYhnYb"

8]Y`J`cfZfYi`XY`Ui`Z`X]YgYg`A`UhWk`]gh[`fc»`"CV`7\Ya`b]hn`XYb`  
GWk`i`b[`Ui`g`XYf`YhnYb`GU]gcb`a`]hVf]b[`Yb`\_Ubbž`V`Y]Vh`  
UVni`k`UfhYb":`Ub`g`VY]XYf`GY]hYb`\_`Öb`bYb`g]Wk`Ui`Z`Y]b`d`UW`Yb`XYg`  
Gd]Y`ZfYi`Ybž`XUg`a`]h`G]Wk`Yf`Y]h`ZÖf`j`]Y":`Y`gd`f`Ä`W`gghc`ZZ`gcf[`Yb`  
k`]fX"

## 9]b`6`]W`\_`Ui`Z`XYb`Gd]Y`j`Yf`Ui`Z`

8`Ug`VYj`c`fghY`Yb`XY`Gd]Y`j`Y`fgdf]Wk`h`b]Wk`h`bi`f`gdc`fh]Wk`Y`E`i`U`]h`Ä`ž`  
gcb`XYfb`j`Y`fXYi`h`]Wk`h`Ui`Wk`X]Y`F`]j`U`]h`Ä`ž`X]Y`nk`]g`Wk`Yb`X]Y`gYb`  
VY]XYb`HYUa`g`VY`ghY`h`9`g`k`]fX`i`b`hY`fY`gg`Ub`h`gY]b`ni`g`Y`Yb`ž`k`]Y`  
g]Wk`X`Ug`A`UhWk`Yb`hk`]W`\_`Y`b`k`]fX`i`b`X`k`Y`Wk`Y`h`U`\_`h]g`Wk`Yb`  
5`bd`Uggi`b[`Yb`X]Y`HfU]b`Yf`j`c`fb`Y`a`Yb`k`Y`fXYb`"6`Y]XY`  
A`Ubb`g`Wk`U`Z`h`b`Y`UVYb`Y`fYb`Y][`Yb`Yb`Gd]Y`gh`]i`b`X`Y`g`\_`Ubb`X`Uj`c`b`  
Ui`g[`Y[`Ub[`Yb`k`Y`fXYb`ž`X`Ugg`X]Y`gY`i`b`hY`fg`Wk]Y`XY`Y]b`Yb`  
VY`XYi`h`Yb`XYb`9]b`Zi`gg`Ui`Z`XYb`Gd]Y`Ui`g[`Ub[`Y`UVYb`k`Y`fXYb"

## Gd]Y`Ub`U`mgY`i`b`X`HYUa`Y]ghi`b[`g`Ø`V`Y`fg]Wk`h`

8]Y`c`ZYbg]j`Y`Gh`Ä`f`\_`Y`j`c`b`7`Uf`NY]gg`ž`b`Už`X]Y`g]Wk`]b`Y]b`Yf`  
VYY]b`Xfi`W`\_`Yb`XYb`5`bn`U`X`j`c`b`nk`Ö`Z`HfY`ZY`fb`]a`V]g`Y`f][`Yb`  
GU]gcb`j`Yf`Ui`Z`b]Y`XY`fg`Wk`Ä[`hž`nY][`h`g]Wk`X`Yi`h`]Wk`]b`X`Yb`Y`hn`h`Yb`  
Gd]Y`Y]ghi`b[`Yb`"8]Y`ž`b`UYf`Y`UVYb`b]Wk`h`bi`f`]b`X`Yf`6`fY]hY`]fY`f`  
5`b[`fY]Z`f`Ø`V`Y`fn`Yi`[`hž`gcb`XYfb`Ui`Wk`]b`X`Yf`J`Uf]UV`]h`Ä`h`]fY`f`  
Gd]Y`n`Ø[`Y`5i`gk`Y`fhi`b[`Yb`X`Yf`Gd]Y`Y`nY][`Yb`ž`X`Ugg`]fY`5`b[`fY]Z`f`  
gck`c`X`]b`?`c`b`hY`fg]hi`Uh]c`b`Yb`U`g`Ui`Wk`]a`5i`Z`U`i`gd]Y`Y`ZY`\_`hj`  
U[`]Y`fYb`\_`Öb`b`Yb`"

5i`Z`XYf`Ub`XY`fYb`GY]hY`U`h`Y`X`Yf`7`Y`a`b]hn`Yf':`7`]b`X`Yf`Y`hn`h`Yb`  
DUfh]Y`[`Y[`Yb`X`Yb':`GJ`nk`]W`\_`Ui`a`]h`X`Y`Z`Y`bg]j`Yb`G`Wk`Ä`Wk`Yb`ni`  
\_`Ä`a`d`Z`Yb`ž`X]Y`g]Wk`]b`X`Yf`<`Ö`Y`X`Yf`B]Y`XYf`U[`Y`a`Ub]Z`Y`gh]Y`fh`Yb`"8]Y`  
5`b`U`mgY`X`Yf`8`Y`Z`Y`bg]j`Y]ghi`b[`Yb`X`Yi`h`Y`h`X`U`f`Ui`Z`]b`ž`X`Ugg`Y]b`Y`  
VY`gg`Y`fY`5`V`gh]a`a`i`b[`i`b`X`Y]b`gh`f`Yb[`Y`fY`g`D`f`Y`gg]b[`j`c`b`b`Ö`h`Yb`g]b`X`ž`  
i`a`X]Y`[`Y`Z`Ä`f`]Wk`Yb`5`b[`f]Z`Y`X`Y`g':`7`7`Y]b`ni`X`Ä`a`a`Yb`"

< ]ghc f]gW Y f' ? c b hYI h'XYf'F ]j U`]hÅh

8]Y'6Y[ Y[ bi b[ Yb'nk ]gW Yb'XYa ' : 7'7Uf'`NY]gg'>bU'i bX'XYa  
7\Ya b]hnYf': 7'\UVYb'Y]bY'`Ub[ Y'; YgW ]W hYž'X]Y'V]g]b'X]Y'NY]h  
XYf'88F!C VYf' ][ U'ni fØW\_fY]W h" 8]YgY'F ]j U`]hÅh]gh'b]W h'bi f  
gdcfh]W Yf'B Uhi fž'gcbXYfb'k ]fX'Ui W 'j cb'XYb'\_'i `hi fY`Yb  
I bhYfgW ]YXYb'nk ]gW Yb'XYb'VY]XYb'GhÅXhYb' [ YdfÅ[ h"K Å\fybX  
>bU'\]ghc f]gW 'ZØf'gY]bY'U\_UXYa ]gW Y'DfÅ[ i b[ 'VY\_Ubbh]ghž'\Uh  
7\Ya b]hn'Y]bY'ghUf\_Y' ]bXi ghf]Y`! [ YdfÅ[ hY'; YgW ]W hY" Gc`W Y  
\]ghc f]gW Yb'i bX'gcn]U'Yb'I bhYfgW ]YXY'j Yf'Y]\Yb'XYb'DUfh]Yb  
nk ]gW Yb'X]YgYb'VY]XYb'7'i Vg'Y]bY'VYgcbXYfY': ðhYbg]hÅh''

ð'XYb'`YmhYb' >\fnY\ bhYb'g]bX'X]Y'VY]XYb'J YfY]bY'Ui W 'j b  
j YfgW ]YXYbYb'@[ Yb'Ui ZY]bUbXYf[ Yhfc ZYbž'k Ug'X]Y'F ]j U`]hÅh  
k Y]hYf'Ub[ Y\Y]nh'\Uh" 8]Y'F U\ a YbVYX]b[ i b[ Yb'i bX  
9bhk ]W\_`i b[ Yb'ja 'XYi hgW Yb': i » VU`'\UVYb'g]W 'gY]h'XYf'K YbXY  
[ Yk UbXY'hž'YXcW 'V'Y]Vh'XYf'gdcfh]W Y'K Yh\_Ua dZY]b  
ØVYfXUi YfbXYg'9`Ya Ybh''

GhUh]gh]gW Y 'F Y`Yj Ub n'i bX'HYUa XmbUa ]\_

GhUh]gh]\_gd]Y'h'Y]bY'YbhgW Y]XYbXY'F c`Y'VY]XYf'6Yk Yfhi b[ 'XYf  
HYUa XmbUa ]\_"5\_hi Y`Y'GhUh]gh]\_Yb'nY][ Ybž'XUgg'XYf': 77'b]W h  
bi f'X]Y'a Y]ghYb'HcfY'Yfn]Y'h'\Uhž'gcbXYfb'Ui W 'Y]bY'XYf'VYghYb  
C ZYbg]j `Y]ghi b[ Yb'XYf'@[ U'Ui Zk Y]gh" ða 'J Yf[ `Y]W 'XUni '\Uh'XYf  
7\Ya b]hnYf': 7'a ]h'bi f'nk Y]'Yfn]Y'hYb'HfY ZYfb' ]b'XYb'`YmhYb'XfY]  
Gd]Y`Yb'GW k ]Yf][ \_Y]hYbž'fY[ Y'a Å» ][ Y'HfY ZYf'ni 'Yfn]Y`Yb''

@Ui h'XYb'bYi YghYb'GhUh]gh]\_Yb'\Uh'X]Y'9ZY\_h]j ]hÅh]ja '5VgW 'i gg  
ZØf'XYb': 7'7Uf'`NY]gg'>bU'V]g\Yf' ' ' i 'VYhfU[ Ybž'k Ug]ja  
J Yf[ `Y]W 'ni f'@[ U'Y\Yf'ØVYfXi fW gW b]h'W 'j]gh" 8]YgY'NU\`Yb  
j YfXYi h]W Ybž'XUgg'X]Y'C ZYbg]j Y'XYg': 77'b]W h'bi f'Ui Z[ fi bX  
XYf'5bnU\`XYf'HcfY'ghUf\_]ghž'gcbXYfb'Ui W 'Ui Z[ fi bX'XYf  
E i U`]hÅh'XYf'HcfW UbW'ž'X]Y'g]Y'\_fY]YfYb'`\_ØbbYb" 9]b'6`]W\_`Ui Z  
X]Y'DUgg[ YbUi ][ \_Y]h'i bX'6U`VYg]hnnY]hYb'`\_ØbbhY'XUVY]  
Ui ZgW 'i ggfY]W 'gY]bž'i a 'X]Y'Gd]Y'ghfUhy [ ]Yb'VY]XYf  
A UbbgW UZhYb'VYggYf'ni 'j YfghY\Yb''

: Øf'7\Ya b]hn'k ]fX'Yg'YbhgWXY]XYbX'gY]bž']\fY'XYZYbg]j Y'GhUV]'hÀh  
ni 'Yf\Ò\Ybž'i a 'Y]bY'K ]YXYf\c'i b[ 'XYf'ni 'Ynh'Yf']hhYbYb  
B]YXYf'U[ Yb'ni 'j Yfa Y]XYb'"HU\_h]gWXY'5bdUggi b[ Yb'i bX'Y]bY  
: c\_i gg]Yfi b[ 'Ui ZX]Y'XYZYbg]j Y'5fVY]hgk Y]gY'\_ÒbbhYb'XYb  
l bhYfgW]YX']b'XYb'\_ca a YbXYb'Gd]Y'Yb'Ui ga UWXYb"

8YhU]`g

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