

: `i [W Ucg`]a `Gca a Yf`&\$&(. `8Yi hgW Y
5]f`]bYg`]b`XYf`9i fcdU!GW i gg`]b]Y

A YhU!6YgWfY]Vi b[. / ei ch/8Yf`Gca a Yf`&\$&(`nY][h
Yf\YV`]WY`GWk`ÅWYb`]a`Yi fcdÅ]gWYb`@ Zhj Yf_Y`fž
]bgVYgcbXYfY`]b`8Yi hgW`UbX`" `b`X]YgYa`5fh]_Y`UbU`mg]Yfh
: `i [[UghfYW hgYI dYfh]b` : YmU`HØf_`Øb`X]Y`U`Ufa`]YfYbXYb
Ghcfb]Yfi b[g!`i bX`J Yfgd`Åhi b[gfUhYb`j`cb`XYi hgWYb
5]f`]bYgž`]bgVYgcbXYfY`XYf`@ Zh\Ubgu` ; fci d`"9fZU`fYb`G]Yž
k Y`WY` : `i [\`ÅZYb`i bX` : `i [[YgY`gW UZhYb`Ua`gW`YW hYghYb
UVgWbY]XYb`i bX`k Ufi a`Xf]b[YbXYf`<UbX`i b[gVYXUfZ
VYghY`h"/ ei ch/



: `i [\`ÅZYb`i bX` : `i [[YgY`gW UZhYb`]b`XYf
? f]h]_ . `5i gk]f_i b[Yb`XYf`\c\Yb
Ghcfb]Yfi b[gfUhYb`]a`Gca a Yf`&\$&(

8Yf`Gca a Yf`&\$&(`ghY`h`Y]ba U`a Y`f`X]Y`<YfUi gZcfXYfi b[Yb`XYf

Yi fcdÄ]gWkYb`@ ZhZU\ fhVfUbwkY`]b`XYb`J cfXYf[fi bX"6YgcbXYfg]b
8Yi hgWk`UbX`g]bX`X]Y`DfcV`Ya`Y`cZZYbg]Wk`h]Wk`[Yk cfXYbž`XU`X]Y
: `i [[UghfYWk hgYI dYfh]b` : YmU`HØf_Öb`j ca`J YfVfUi`Wk`YfcdcfhU`
: `][\hf][\h`U`Ufa`]YfybXY`NU\`Yb`dfÄgYbh]YfhY"8]YgY`G]hi`Uh]cbYb
nY][Yb`b]Wk`h`bi`f`X]Y`GWk`k`ÄWk`Yb`XYf`5]f`]bYg`Ui`Zž`gcbXYfb
j`YfXYi`h]Wk`Yb`Ui`Wk`XYb`Xf]b[YbXYb`<`UbX`i`b[gVYXUfZ`ni`a
GWk`i`hn`XYf`J`YfVfUi`Wk`YffYWk`hY"

5`Ufa`]YfybXY`NU\`Yb`XYf`8Yi`hgWk`Yb`@`ZhZU\`fh

8]Y`@`Zh\`UbgU` ; fci`d`\`Uh`g]Wk`]a`@`Ui`ZY`XYg`Gca`a`Yfg`U`g
Gcf[Yb_]bX`\`YfUi`g[YghY``hi`bX`ZØ\`fh`X]Y`Ghcfb]Yfi`b[gghUh]gh]_Yb
]b`9i`fcdU`Ub`"A`]h`Y]bYf`Ghcfb]Yfi`b[gei`chY`j`cb`"ž\$-`DfcnYbh
gh]Wk`h`X]Y`HcWk`hYf[YgY``gWk`UZh`9i`fck`]b[g`VYgcbXYfg`bY[Uhj
\`Yfj`cf`"a`J`Yf[`Y]Wk`X`Uni`YffY]Wk`hY`@`Zh\`UbgU`gY`Vgh`&ž-`\$
DfcnYbhž`k`Ä`fYbX`XYf`5bhY]`Ub`UV[YgU[hYb`: `Ø[Yb`VY]`UbXYfYb
Yi`fcdÄ]gWk`Yb`5]f`]bYg`XYi`h]Wk`b]YXf][Yf`k`Uf`" : `i [[YgY``gWk`UZh`Yb
k`]Y`F`mU`b`U]f`i`bX`H5D`Dcfhi`[U`nY][Ybž`X`Ugg`Ui`»`Yf[Yk`Ö\`b`]Wk`Y
GYfj`]Wk`ei`U`]h`Ä`h`Ui`Wk`i`bhYf`8fi`W_`a`Ö[`]Wk`]ghž`]bXYa`g]Y
Ghcfb]Yfi`b[gei`chYb`j`cb`i`bhYf`%`DfcnYbh`j`YfnY]Wk`bYb"

K`Ufi`a`X]Y`G]hi`Uh]cb`j`cb`6YXYi`hi`b[`]gh

8]YgY`\`c`\`Yb`Ghcfb]Yfi`b[gfUhYb`k`]f`_Yb`g]Wk`b]Wk`h`bi`f`bY[Uh]j`Ui`Z
X]Y`F`Y]gYbXYb`Ui`gž`X]Y`Ui`Z`\`fY`: `Ø[Y`Ub[Yk`]YgYb`g]bXž`gcbXYfb
VY`UghYb`Ui`Wk`X]Y`[YgUa`hY`K`]fhgWk`UZh`gghfi`_hi`f`XYg`@`Zh`Yf`Y`\`fg`"
DUggU[]Yfyb`ghY`\`h`c`Zh`Y]bY`Ub[Y`K`UfhYnY]h`VYj`cfž`i`bX`j`]Y`Y
a`ØggYb`Ui`Z[fi`bX`gc`Wk`Yf`Ghcfb]Yfi`b[Yb`9fk`UWk`gYbY
I`f`Ui`VghU[Y`Y]bVØ»`Yb`i`Y]b`YWk`hYg`DfcV`Ya`ZØf`6Yfi`ZghÄh][Y"

J`YfVcf[YbY`9]bZ`i`ggZU`_hc`fYb.`GhfY]_g`i`bX
DYfgcbU`a`Ub[Y`

9]b`k`Y]hYfYf`nYbhfU`Yf`5gdY`_h`g]bX`X]Y`]b`bYfVYhf]YV`]Wk`Yb
DfcV`Ya`Y`i`bX`XYf`k`Y]hYf\]b`j`cf`\`UbXYbY`DYfgcbU`a`Ub[Y`ž
k`Y`Wk`Y`a`U»[YV`]Wk`ni`X]YgYb`Ghcfb]Yfi`b[Yb`i`bX`J`YfgdÄ`hi`b[Yb
VY]hfU[Yb`"GhfY]_gž`]bgVYgcbXYfY]bbYf\`U`V`XYf`@`Zh\`UbgU` ; fci`dž
\`UVYb`Ui`Wk`]b`X]YgYa`Gca`a`Yf`]bhYfbUh]cbU`Yg`5i`ZgY`\`Yb`YffY[h`

8 Ug\Uh'b]W h'bi f'X]Y': 'i [d'AbY'Xi fWXY]bUbXYf[YVfUW hž'gcbXYfb
Ui W'XUg'J YfhfUi Yb'j]Y'Yf'F Y]gYbXYf']b'X]Y'Ni j Yf'Àgg][_Y]h
X]YgYf': 'i [[YgY`gW UZhYb'ni a 'K Ub_Yb' [YVfUW h"

I bni Zf]YXYb\Y]h']b'XYf'857<!FY[]cb

⇒ @AbXYfj Yf['Y]W'Z]bXYb'g]W'8Yi hgW'UbXž² ghYffY]W' i bX'X]Y
GWk Y]n' [Ub'n'cVYb'Ui Z'XYf'@ghY'XYf'Ghcfb]Yfi b[Yb'"K À\fybX'X]Y
GWk Y]n'a]h'&ž) \$'DfcnYb'hiUb'Ghcfb]Yfi b[Yb'X]Y'Gd]hnY
Ub_ØbX][hYž'Zc`[hY'8Yi hgW'UbX'a]h'&ž(('DfcnYb'h" HØf_Øb'VYhcbh
ni XYa ž'XUgg'X]Y'Ub\U'hYbXYb'DfcV'Ya Y']b'XYf'857<!FY[]cb
G][bU'Y'gYbXYb. 'J YfVfUi W'Yf'j Yf'Ub[Yb'VYggYfYb'GYfj]W' i bX
Y]b'j Yf'Àgg]W'YfYg': 'i [gmghYa "

9i fcdÀ]gWY': 'i [\ÀZYb']a '<]bhYfhfYZZYb

8]Y'XYi hgW'Y' ðZfUghfi _hi f'k]fX'\Ài Z]['_f]h]g]Yfh"8]Y'j]Yf
XYi hgW'Yb': 'i [\ÀZYbž'XUfi bhYf'XYf': 'i [\UZYb'6Yf']b
6fUbXYbVi f['i bX'XYf': fUb_Zi fhYf': 'i [\UZYbž[Y\ØfYb'ni 'XYb
ZØbZ: 'i [\ÀZYb'a]h'XYb'\ØW'ghYb'Ghcfb]Yfi b[gei chYb']b'9i fcdU"
8]YgY'j Yf['Y]W'gk Y]gY'\c\Yb'NU\Yb'k YfZYb'b]W'h'bi f': fU[Yb
ni a 'A UbU[Ya Yb'hiUi Zž'gcbXYfb'nY][Yb'Ui W'ž'XUgg'XYf' [YgUa hY
XYi hgW'Y'@ Zhj Yf_Y\ f'Y]bYf' [fi bX'Y[YbXYfYb', VYfUfVY]hi b[
VYXUfZ'

9bhgW'ÀX][i b[gnU\ 'i b[Yb. '9]b'gW'YddYbXYf'DfcnYgg

5V[YgY\Yb'j cb'XYb'Ghcfb]Yfi b[Yb']gh'Ui W'X]Y': fU[Y'XYf
9bhgW'ÀX][i b[Yb'Y]b'nYbhfU'Yg'H\Ya U"'8Yf': '[\hf][\h! ðXYI '\Uh
]a 'ž']i bhYfgi W'hž'k]Y'gW'bY''j YfgW']YXYbY': 'i [[YgY`gW UZhYb
9bhgW'ÀX][i b[Yb'nU\Yb'"K À\fybX'Y]b][Y'5]f']bYg'k]Y'HfUbgUj]U
: fUbW' i bX'5i ghf]Ub'5]f']bYg'a]h'('GhYfbYb'\Yfj cffU[YbX
UVgW'bY]XYbž[Y\ØfYb'X]Y'@ Zh\UbgU'i bX'Hi f_]g\ '5]f']bYg'ni 'XYb
GW' i gg]W'hYfb']b'X]YgYf'? UhY[cf]Y"'8]Yg'j YfXYi h]W'hž'XUgg'Yg
Ui W'bUW'Y]bYa ': 'i [Ui gZU`gW'k]Yf]['gY]b'_Ubbž'ni 'gY]bYa
FYW'h'ni '_ca a Yb"

8]Y'9bhk]W'_i b[Yb'fi bX'i a 'X]Y'Ghcfb]Yfi b[Yb'i bX'X]Y

i bni fY]WXYbXYb'9bhgWÅX][i b[Yb'g]bX'YbhgWXY]XYbX'ZØf
F Y]gYbXY'i bX'X]Y' [YgUa hY'5]f']bY!6fUbWXY" '9g']ghj cb'Ài » YfghYf
K]W\h][_Y]hž'XUgg'i bhYfbY\ a Yb'i bX': 'i [\UZybVYhfY]VYf
[Ya Y]bgUa 'A U» bU\ a Yb'Yf[fY]Zybž'i a 'XYb'GYfj]W'ni
j YfVYggYfb'i bX'XUg'J YfhfUi Yb'XYf': 'i [[ÅghY'ni fØW_ni [Yk]bbYb"

8]Y'<YfUi gZcfXYfi b[Yb'XYg'@ Zhj Yf_Y\fg']b'8Yi hgW\`UbX'nY][Ybž
XUgg'k]f'Ub'Y]bYa 'K YbXYdi b_h'ghY\Yb.'9]b'K UbXY'']gh'bØh][ž'i a
Y]bY'j YfVfUi WYfZfYi bX']WYfYž'hfUbgdUfYbhYfY'i bX
ni j Yf'Àgg][YfY'@ ZhZU\fh'ni '[Yk Å\`f'Y]ghYb"

8YhU]`g

6Ygi WXYb'G]Y'i bg'Ui Z.'a Y]b!VYf`]b"bYh