

# SOCW1001

=bhfcXiWM]cbhcGcW]U`Kcf\_

HYfa 'C bY''##'&\$&%

# 7cifgY<sup>·</sup>8YHJ]`g

### 7 fYX]hDc]bhg\*\*\*

### Gi a a UfmcZhXY7ci fgY

H\]gʻWci fgY`]bhfcXi WYgʻmci ʻhcʻh\YʻgWcdYʻUbXʻdUfUa YhYfgʻcZh\YʻgcWJU`k cf\_`dfcZygg]cb"`#idfcj ]XYgʻUb cj Yfj ]Yk 'UbX`fUh]cbU`YʻZcfʻh\Yʻ6GK fk cbgŁW ff]W``i a 'VmdfYgYbh]b[`cb`\_YmUfYUgʻcZgcWJU`k cf\_ \_bck `YX[ Y`UbX`dfUWf]WYž]bWi X]b[`h\Y`X]j Yfg]miWcbhYI hgʻcZgcWJU`k cf\_`]bhYfj Ybh]cbž'h\Y`fUb[ Y`cZh\Ycfm UbX`\_bck `YX[ Y`h\Uh]bZcfa gʻgcWJU`k cf\_`dfUWf]WYžUbX`h\Y`WcXY`cZYh\]Wgʻh\Uh[ i ]XYgʻdfcZygg]cbU` ]bhYfj Ybh]cb"`5`j Uf]YmicZWJgY`gh X]YgžgcWJU`k cf\_`dfUWf]WYžUbX`h\Y`WcXY`cZYh\]Wgʻh\Uh[ i ]XYgʻdfcZyg]cbU` ]bhYfj Ybh]cb"`5`j Uf]YmicZWJgY`gh X]YgžgcWJU`k cf\_`dfUWf]WYčUbX`h\Y`WcXY`cZYh\]Wgʻh\Uh[ i ]XYgʻdfcZyg]cbU` ]bhYfj Ybh]cb"`5`j Uf]YmicZWJgY`gh X]YgžgcWJU`k cf\_`dfUWf]WY`gWYbUf]cgʻUbX`dfUWf]hjcbYf`dYfgdYWf]j Ygʻk ]`` VY`i gYX`hc`]``i ghfUhY`h\]gʻa UhYf]U`"5dd`]YX`gcWJU`k cf\_`Z]YX`YI Ua d`Ygʻk]``U`gc`VY`i gYX`hc`YI Ua ]bY`h\Y `]b\_gʻVYhk YYb`WcbWYdhi U`\_bck`YX[ Y`UbX`dfUWf]WU``Udd`]WJh]cb"`5`fUb[ Y`cZfY`Yj UbhU[ YbW]Ygʻk]``VY dfcZ]`YX`UbX`ghi X]YX`]b`h\]gʻWci fgY"

### 7cifgY`@YUfb]b[`CihWcaYg

- %" 9I d`U]b`gcW]U``k cf\_'h\YcfmUbX`j U`i Yg
- &" Cih]bY'f\Y'X]jYfgY'fUb[Y'cZZ]Y`Xg'UbX'WcbfYIfg'k]f\]b'k\]W\'gcW]U`'kcf\_`]bfYfjYbf]cb'aUmcVW/f ' " 5dd`m\_bck`YX[Y'cZgcW]U`'kcf\_'f\YcfmUbX'jU`iYg'fc'U'fUb[Y'cZgcW]U`'kcf\_'Z]Y`XgžWcbfYIfgž
- a Yh cXgž'UbX']bhYfj Ybh]cbg ("OLLIA ]bY'b Y'fa Y'a 7 ao Willi'k of the Yofmilib Yof ib too Willi'k of the INNOV
- ("91Ua]bY'h\Y'fc`Y'cZgcW]U``k cf\_'h\YcfmUbX'jU`i Yg']b'gcW]U``k cf\_'dfUW]VW

### HYUWX]b[ GhfUhY[]Yg

#### FUhjcbU`Y

H\]gʻWcifgY`]gʻ]bWiXYX'hcʻYbUV`YʻghiXYbhgʻhcʻXYjY`cdʻUʻ\_bckʻYX[Y`VUgY`UbXʻg\_]``gʻ]bʻWf]hJWU``UbU`mg]gʻh\Uh WUb`VY`Udd`]YX'hc`\_YmUfYUgʻcZWcbWffb"'H\]gʻk]```UmUʻgc`]XʻZcibXUhJcbʻZcf`h\Y`XYjY`cdaYbhcZZfh\Yf gcWJU``kcf\_`\_bck`YX[Y`UbX`dfUWfJWf`g\_]``XYjY`cdaYbh''H\]gʻfYZYWfgʻcifʻdcg]hJcbʻh\UhdfUWfJWf`k]h\]bʻh\Y GcWJU``Kcf\_`ZJY`X`k]```fYei]fY`ghiXYbhgʻhc`VY`Yei]ddYX`k]h\`Vch\`\_bck`YX[Y`cZh\Y`gYWfcf`UgʻkY``UgʻU Wf]hJWU``ZfUaYkcf\_`hcʻigY`]bʻibXYfgHUbX]b[``h\Y`bYYXgʻcZW]Ybhgʻ[fcidgž'h\Y`]bZiYbWf`cZWcbhYIhcb XYZ]b]b[``h\Y]f`bYYXg`UbXž']bʻh\Y``][\hcZh\Uhž'h\Y`fc`Yg`h\UhgcWJU``kcf\_Yfgʻa][\hd`UmUgʻU`fYgi`hcZh\]g"

#### HYUWX]b[ 'GHfUHY[]Yg

H\Y'HYUWX]b[']g'ZcWigYX'UfcibX'U'biaVYf'cZWUgY'gHiX]Yg'k\]WX'k]```VY'igYX'hc'YId`cfY'H\Y'fUb[Y'cZ UggcWJUHYX'GcWJU''K cf\_']ggiYg'H\UhUf]gY'Uh]bX]j]XiU'žZJa]`mž'Wcaaib]mUbX'gcWJYHU``YjY`g''H\Y'WUgY YIUad`Yg'k]``YbgifY'H\Y'Wcbg]XYfUH]cb`cZYH\]WU`X]YaaUgž'UbX'H\Y'fUb[Y'cZdcgg]V'Y'gcWJU`'k cf\_ gYfj]WY'fYgdcbgYg''H\Y'H\fYY'\_Ym]ggiYg'cZX]jYfg]mž'aYbHU``\YU'H\`UbX'W\]X'KY``VY]b[#dfcHYWf]cb'k]``VY H\Y'ZcW g'cZ`YUfb]b["'GdYWJZ]Wdcdi`Uh]cbg'cZ: cf[cHYb'5igHU`]Ubgž'H\Y'Ghc`Yb';YbYfUH]cb'UbX'5gmia GYY\_Yfg'k]``VY'igYX'hc']``ighfUHY'H\YgY'\_YmUfYU'UfYUg''

CbY'VUg]WUggiadh]cb'kY'aU\_Y`]b'h`]g'WcifgY`]g'h`UhU```ghiXYbhg`Vf]b['VUW\_[fcibX`\_bck`YX[Y'UbX``]ZY YIdYf]YbWY'hc'WUggYgž'UbX'h`Uh]h`]g'h`Uh\_bck`YX[Y'UbX'YIdYf]YbWY'h`Uh`]g'U`fYUXmdcggYggYX'k`\]W\`]g h`Y'acgh`]adcfhUbh`]b[fYX]Ybh`]b``YUfb]b[']b'=bhfcXiWf]cb'hc'GcW]U``Kcf\_"'Cif'aYh`cX'cZhYUW\]b['fYei]fYg UWf]jY'dUfh]W]dUh]cb']b'ghiXYbhfg'ckb``YUfb]b[ž'UbX'Ub'UWf]jY'igY'cZk\Uh]g'U`fYUXm\_bckb" H\Y`YWi fYg`k]``]bj c`j Y`X]gW gg]cb`cZh\Y`h\YcfYh]WU``]bZcfa Uh]cb`VY]b[`ghi X]YX`Ug`k Y```Ug`dfYgYbhUh]cbg h\UhUfY`X]fYWimfY`UhYX`hc`h\Y`dfUWi]WY`g]hi Uh]cbg`VY]b[`ghi X]YX"`Gca Y`dfYgYbhUh]cbg`k]``Wcbg]ghicZdYcd`Y k\c`\Uj Y`Z]fgh\UbX`dfUWi]WY`YI dYf]YbWYžUbX`h\]g`]g`U`j U`i UV`Y`cddcfhi b]miZcf`ghi XYbhg`hc`Ug\_`h\Y]f`ck b ei Ygh]cbg`UbX`\Uj Y`[YbYfU``WUgg`X]gW gg]cb"

=b`UWWcfXUbWY`k]h\`IBGK`@YUfb]b[`UbX`HYUW\]b[`; i]XY`]bYg`h\]g`WcifgY`]bhYbXg`hc`Yb[U[Y`ghiXYbhg`]b `YUfb]b[`Vmdfcj]X]b[`cddcfhib]h]Yg`hc`Yb[U[Y`]b`h\Y`gcW]U`kcf\_`WcbhYIhj]U`U`j]g]hhc`Ub`U[YbWhcZh\Y]f W\c]WY"`GhiXYbhg`UfY`YbWcifU[YX`hc`X]gW gg`h\Y]f`YIdYf]YbWYg`cZDfUWf]W`a#Jc`ibhYYf`UbX`Yad`cmYX dcg]h]cbg`]b`fY`Uh]cb`hc`gcW]U`kcf\_#;Y`ZJfY`WUgY`ghiXmgWfbUf]cg`dfYgYbhYX`h\fci[\cih\Y`WcifgY"

# 5ggYgga Ybh

K YY\_g`%(`cZ`YWi fYg`UbX`hi hcf]U`g`k]``Wcj Yf`WcbhYbhiN.Uh]g`X]fYWimfY`Yj Ubhinc`Wca d`Yh]cb`cZ 5ggYgga Ybh%z'k \]`Y`k YY\_g`)!%\$`cZ`YWi fYg`UbX`hi hcf]U`g`k]``Wcj Yf`WcbhYbhiN.Uh]g`X]fYWimfY`Yj Ubhinc Wca d`Yh]cb`cZ5ggYgga Ybh&"`

H\]g`]g`k\mUHHYbXUbVW`]g`]a dcfHUbhUbX`UWNjjY`dUfhjWjdUhjcb`UbX`Wcaaib]WUhjcb`k]h\`mcif``YWnifYf`UbX hihcfg`]g`YggYbhjU`"`

; YbYfU``ZYYXVUW\_`cb`UggYgga YbhWca d`Yh]cb`k]``VY`dfcj]XYX`]b`K YY\_`\*`cZHYfa `UbX`XYHU]`YX`ZYYXVUW\_ k]``VY`dfcj]XYX`cb`mci f`a Ubi gWf]dhg"`D`YUgY`Ybgi fY`mci `fYUX`U``Wca a Ybhg`UbX`gYY\_`\Y`d`YUf`m]Zmci bYYX`]h'`K Y`UfY`\YfY`hc`YbWci fU[Y`UbX`gi ddcfhmci f`XYjY`cda YbhUg`UWh]jY`UbX`fYZYI]jY`YUfbYfg"

### 5ggYgga YbhHUg\_g

5ggYgga Ybh'HJg_	K Y][ \h	8iY'8UHY	GhiXYbhi@YUfb]b[ CihWcaYgʻ5ggYggYX
7f]h]WU``9lYfW]gY`cb`hcd]Wg fY`YjUbhihc`h\Y`WcifgY`	(\$1	%+ <i>#</i> \$'#&\$&%`%%\$\$`DA	%
5bU`mg]g`cZ7cbhYIhUbX DfUWnjWY`fY`YjUbhhc`h\Y WcifgY`	*\$I	&, #\$(#&\$&%`%%\$\$`DA	&ž' ž(

### 5ggYgga Ybh8YfU]`g

#### 5ggYgga Ybh'% 7f]hJWU` 9I YfWJgY cb hcd]Wg fY`Yj Ubhhc h\Y Wci fgY

GHUfhXUHY. Bch5dd`]WUV`Y

@Yb[h\.`%)\$\$`k cfXgž`]bWi X]b[`fYZYfYbWg

#### 8YHJ]`g.

5 %) \$\$!k cfX Ugg][ ba Ybhcb hcd]Wg fY Yj Ubhhc h Y Wci fgY"

Ghi XYbhgʻUfYʻ[]j Ybʻk f]hhYbʻZYYXVUW\_'k]h\]bʻhk cʻk YY\_gʻcZgi Va ]gg]cb"

#### 5XX]h]cbU``XYHJ]`g.

=b`f\]g`Ugg][ ba Ybhmci `UfY`fYei ]fYX`hc`gi Va ]hZci f`g\cfhighUhYa Ybhg`f\Uhigi a a Uf]gY`mci f`W ffYbh i bXYfghUbX]b[ `cZ\_YmY`Ya Ybhg`cZ`YUfb]b[ `]b`mci f`ci fbYmhc`VYWca ]b[ `U`gcWJU`K cf\_Yf"

- %" 8]gW gg C B 9 cZh Y XYZb]hcbg cZgcWJU k cf\_dfcj ]XYX ]b h ]g Wei fgY 9 I d U]b k i ]hYb UbWg mci f i bXYfgHJbX]b[ cZgcWJU k cf\_Ug U dfcZygg]cb UbX U gc Y I d U]b k \mh YfY ]g bch f ghcbY XYZb]hcb cZgcWJU k cf\_ 7 ]hY h Y gci fW cZh Y XYZb]hcb UbX Ubmch Yf gci fW g cZ]bZcfa Uhcb mci XfUk i dcb f( \$\$ k cfXgŁ"
- &" GY`YWiUbX`XYgWiJVY`CB9`h\YcfmZcf`gcWjU``kcf\_žcih]b]b[``h\Y`\_YmWcbWidhgžaU]b`h\Ycf]ghgž\ck`]h ]g`igYX`]b`gcWjU``kcf\_"`UbX`Yj]XYbWi`h\UhYId`U]bg`cf`giddcfhg`h\Y`h\YcfmfFYZYf`hc`7\Ybck]h\`UbX

A WUi `]ZYž&\$%-ž7\UdhYf') žUbX'Uh`YUghcbY'ch\Yf'gci fWYŁ"'f( \$\$`k cfXgŁ"

- ' " F YUX'K U'hYf? '6U'hfU!I ``cU'f&\$% Łż? \UdhYf'(']b'C i f'J c]WYg" F YZYff]b[ 'hc'h]g'hYI hUbX'ch Yfg'Ug bYYXYXž ci h]bY'h Y '\]ghcfmcZh Y 'gcWJU'k cf\_'dfcZYgg]cb']b'5i ghfU`]U'UbX'h Y 'W ffYbh]a dUWg cZ Wc`cb]gUh]cb"'9I d'U]b'k \Uh]g'a YUbhVmfk \]hY'df]j ]'Y[ YfiUbX'YI d`U]b'k \mh Y'dfcZYgg]cb'bYYXg'hc fY!h,]b\_'gcWJU`k cf\_']b'5i ghfU`]U"'f(\$\$'k cfXgŁ"
- ("GHJHY'H\Y'gcWjU`'k cf\_'U[YbWmmci 'k]``fYgYUfW\'H\]g'HYfa "'8YgWf]VY'H\Y'U[YbWmVf]YZmžci h]b]b[ H\Y'di fdcgY'UbX'a U]b'gYfj ]WYg'dfcj ]XYXž'UbX'H\Y'Z]Y'X'UbX'WcbHYI hcZdfUWf]WYž'Wjh]b[ 'H\Y'gci fWYg cZU```]bZcfa Uh]cb'fI \$\$'k cfXgŁ"

**Gi Va ]gg]cb`bchYg**.`D`YUgY`Zc``ck`h\Y`GW\cc``fYZYfYbW]b[`[i]XYž'Wcbgi``hh\Y`fi Vf]WzUbgk Yf'U```ei Ygh]cbg Ug\_YX`UbX`Zcfa Uhmci f`Ugg][ba YbhUddfcdf]UhY`m'

Hi fb]h]b`gYh]b[.`H\]g`Ugg][ ba Ybh]g`gi Va ]hhYX`h\fci [\`Hi fb]h]b`UbX`gh XYbhg`WUb`gYY`Hi fb]h]b`g]a ]`Uf]hm fYdcfhg"

5ggYgga Ybh'&. 5bU`mg]g'cZ'7cbhYl h'UbX'DfUWhjWY'fY`Yj Ubh'hc'h\Y'Wci fgY

GHJfhXUHY.Bch5dd`]WUV`Y

@Yb[h\.`&) \$\$`k cfXgž`]bWi X]b[`fYZYfYbWrg

8YHJ]`g.

5 %) \$\$!k cfX Ugg][ ba Ybhcb U hcd]WfY Yj Ubhhc Wci fgY a UhYf]U"

Ghi XYbhgʻUfYʻ[]j Ybʻk f]hhYbʻZYYXVUW\_ʻk]h\]bʻhk cʻk YY\_gʻcZgi Va ]gg]cb"

#### 5XX]h]cbU``XYHJ]`g.

Mci 'UfY'hc'gY'YWicbY'cf[Ub]gUh]cb']b'BGK ž5i ghfU`]Už']b'k \]WX'gcW]U''k cf\_Yfg'UfY'Ya d`cmYX"'Mci k]``fYgYUfWX'h\Y'k cf\_'gcW]U''k cf\_Yfg'i bXYfhU\_Y']b'h\]g'cf[Ub]gUh]cb']b'cfXYf'hc'XYgWf]VY'UbX'UbU'mgY gcW]U''k cf\_'Ug'U'dfcZygg]cb''Mci 'k]``]XYbh]ZmUbX'YI d`U]b'h\Y'ZcW g'dcdi `Uh]cbž'Z]Y'X'cf'dfUWf]WYžWcbYI hcZ dfUWf]WYž'a Yh\cXg'cZdfUWf]WYž'h\YcfYh]WU``UbX'Yh]WU``UgdYWfg'cZdfUWf]WY'''Mci 'k]```Udd`mh\Y'\_bck `YX[Y Zfca 'h\]g'Wci fgY'VmWf]h]WU``mfYZYWf]b['cb'h\Y'U[YbWm]b'fY`Uh]cb'hc'UWf]j]h]Yg'i bXYfhU\_Yb'UbX'fYgci fWYg YI d`cfYX'Xi f]b['h\]g'Wci fgY'''K f]hhYb'ZYYXVUW\_'UbX'U'bi a Yf]WU``a Uf\_'UfY'dfcj]XYX'hk c'k YY\_g'UZhYf'h\Y gi Va ]gg]cb'Xi Y'XUhY''

%"GY`YWhU`5ighfU`]Ub`\iaUb`gYfj]WYg`cf[Ub]gUh]cb`hc`fYgYUfWX"`

- &" F YUX h\Y`cf[Ub]gUh]cb'g'k YVg]h'`UbX`a cghifYWbhUbbi U``fYdcfhUg'k Y```Ug'dYYf`fYj ]Yk YX `]hYfUh fY`UVci hih\Y`ZYX`cf'WcbhYI hcZdfUWhWf"
- " BYI hž``]ghYb'hc'U'dcXWUghž'k UhW.'U'j ]XYcW]d'cf'a YYh'k ]h\'U'gcW]U`'k cf\_Yf'XYgWf]V]b['UbX X]gW gg]b['h\Y]f'k cf\_']b'h\Y'cf[ Ub]gUh]cb'mci 'UfY'fYgYUfW.]b[ žcf'U'j Yfmig]a ]`Uf'cbY"
- ("Dfcj ]XY U WcbhYI h U ]gYX UbU mg]g cZdfUW]WY VmUbgk Yf]b[ 'h Y ei Ygh]cbg VY ck.
  - % GIUHY IN Y bUa Y cZIN Y cf[ Ub]gUh]cb"
  - &" 8]gW gg h Y XWW a XbcSUf[UW]b k \]W. h Y cf[ Ub]gUh]cb Z bWh]cbg fl \$\$ k cfXgŁ"
  - ' "I g]b[ 'Ub']bhYfgYWf]cbU``YbgžXYgWf]VY'h\Y'babg'Sf[a` 'k ]h\'k \ca 'h\Y'cf[ Ub]gUh]cb'k cf\_g WcgY'm''K \UhUfY'h\Y]f'bYYXg'UbX']ggi Yg'UbX'k \UhdfcXi WYg'h\YgY'bYYXg'UbX']ggi Yg3 fl \$\$'k cfXgŁ"
  - ("8]gW gg'U'fZWack fZSf [Xad\_e'gcW]U''k cf\_'dfUWf]WF]b'h\]g'cf[Ub]gUh]cb'fl \$\$'k cfXgŁ"
  - )" 8ŸgWf]VY`U`\_ WfZaV aXeaU[S^i ad] bcSUf[UWi l]`]gYX`]b`h\Y`cf[Ub]gUh]cb`f1 \$\$`k cfXgŁ"

\*" 8]gWigg`fZd/WV] Wke] [^e`gcWJU``kcf\_Yfg`k]```i hj`]gY`]b`h\]g`cf[Ub]gUh]cb`fl \$\$`kcfXgŁ"

- +" 8 YgWf]VY'S 'Si 'h\Uh']g'fY'Yj Ubh'hc 'h\Y'k cf\_'cZh\Y'cf[ Ub]gUh]cb'fl \$\$'k cfXgŁ"
- , "8YgWf]VY`\ck`h\]g`cf[Ub]gUh]cb`UXXfYggYg`Uh`YUgha`WaXfZWUadWhS'gWe`cZh\Y`gcWJU` k cf\_`dfcZygg]cb`f) \$\$`k cfXgŁ
- "91 d`U]b`k \mmci `WkcgY`h\]g`cf[Ub]gUh]cb`hc`fYgYUfWk`f&\$\$`k cfXgŁ"

### 5HYbXUbW/FYei]fYaYbhg

DUffbYfg\]dg'UbX'We``UVcfUh]cb'VYhkYYb'ghi XYbhg'UbX'YXi WUhcfg'UfY'dUffh]Wi`Uf'mi]a dcffUbhi]b'gcW]U`'k cf\_ 'YUfb]b["'5g'kY``žhc'a U]bhU]b'ci f'UWWYX]hUh]cb'Ug'U'dfcj ]XYf'cZgcW]U`'k cf\_'YXi WUh]cbž']hi]g']a dcffUbhih\Uh YUW\'ghi XYbhZ]bXg'h\Ya gY`j Yg']b'Ub'Ybj ]fcba Ybhk\YfY'h\YmUfY'UV'Y'hc'YI dYf]YbWY'U``WebhYbhhc'U'\][\ 'Yj Y``cZXYdh\'UbX'Yb[U[Ya Ybh'': cf'h\]g'fYUgcbž'UWh]j Y'dUffh]W]dUh]cb'UbX'Wea a ]ha Ybhhc'UhhYbXUbVW']g YI dYWYX'cZU```ghi XYbhg''

7 ca dUgg]cb'UbX'WebWYfb'Zef'gh XYbhk Y`ZJfY']g'k \Uhk Y'ghf]j Y'Zef']b'ci f'dfej ]g]eb'eZgeWJU`'k ef\_ YXi WUhjeb'UbX'h\]g']g'YbUV'YX'Vmłk e!k UmWea a i b]WUhjeb''7 ca a i b]WUhjeb']g'YgdYWJU``mi]a defhUbhk \Yb'U gh XYbh]g'YI dYf]YbWJb[ ``YUfb]b[ `VUff]Yfgž'dUfh]W'`Uf`mh\egY'k \]W\`UZYWhWUgg'UhhYbXUbWY`UbX'Wea d`Yhjeb eZ]bXYdYbXYbh`YUfb]b[ 'HUg\_g"

Hc Ybgi fY th Uhighi XYbh YUfb]b[ 'UbX'k Y``VY]b[ ']g'Uhih Y ZcfYZfcbhcZU```XYW]g]cbg'a UXYžk Y YbWci fU[ Y U`` ghi XYbhg'hc 'Wca a i b]WUhY 'Ubm VUff]Yf'hc 'UhiYbXUbWY hc mci f Wci fgY Wcbj Ybcfž``YWi fYf'cf'hi hcf'Ug'gccb'Ug dcgg]V`Yž'gc 'U'Wc``UVcfUh]j Y 'd`Ub WUb 'VY XYj Y`cdYX'hc k cf\_'Ufci bX'h\YgY 'VUff]Yfg''

Zmci f'UHYbXUbW']g'UZYWYX'Zcf'U``]a ]HX'dYf]cX'cZh]a YžkY'k]``fYZYf'mci 'hc'gY`YWYX'U`HYfbUHY'HUg\_g'kY \Uj Y'WYUHYX'hc'dfca cHY'mci f'UWWgg'hc'j ]HU`WcbHYbhi]b'H\]g'Wci fgY"'H\YgY'U`HYfbUHj Y'HUg\_g'WUb'U`gc'VY Wca d`YHYX'Vmghi XYbhg'k \cgY'UHHYbXUbW']g'YI Ya d`UfmUbX'k \c'k]g\'hc'YI HYbX'H\Y]f``YUfb]b["'K Y'k]`` YI dYWfmci 'hc'HU\_Y'Z ```fYgdcbg]V]`]mrUbX']b]hJUhj Y'Zcf'Wca d`Yhjb['H\YgY'U`HYfbUHY'HUg\_g'UbX'hc'Ybgi fY'H\Uh ]b'Wca d`Yhjb['H\Ya 'mci 'XYj Y`cd'U`[ccX'k cf\_]b['\_bck`YX[Y'cZh\Y'WcbHYbha]ggYX"

Cif'U]a `]g'hc'ZcghYf'Ub'Ybj ]fcba Ybhk \YfY'gh XYbhg'ZYY`'Wca ZcfhUV'Y'Wca ]b['Zcfk UfX'fY[UfX]b['WcbWYfbg UVci hh\Y]f''YUfb]b['UbX'UhYbXUbWY'''6UgYX'cb'YIdYf]YbWYž]Zmci f'UhYbXUbW' Xfcdg'VY`ck 'U'WYfhU]b''Yj Y` ]h]g'i b`]\_Y`mmci 'k]``\Uj Y'h\Y'g\_]``g'UbX'\_bck 'YX[Y'hc'YZYWhj Y`mUW\]Yj Y'h\Y''YUfb]b['ci hWca Yg'cZh\]g Wci fgY/k \]W\']g'k \mk Y'\][\`mYbWci fU[Y'UWhj Y'UhYbXUbW' 'UbX'dUfh]W]dUh]cb'''K ]h 'YZYWhj Y Vca a i b]WUh]cb'UbX'd'Ubb]b['k Y'YbXYUj ci f'hc'Uj c]X'g]h Uh]cbg'k \YfY'gh XYbhg'ZYY`'h\Ym\Uj Y'bch UXYei UhY`mYb[U[YX'k]h\'h\Y'Wci fgYž'UbX'h\YfYZcfY'ghfcb[`mYbWci fU[Y'gh XYbhg'cVY`ck'`UVcfUh]cb''bX WcbWfbg'Ug'YUf'mUg'dcgg]V'Y'''K Y'k Ubh'hc'U[U]b'Ya d\Ug]gY'h\Y']a dcfhUbWY'cZWc``UVcfUh]cb'UbX Wca a i b]WUh]cbž'UbX'UW\_bck 'YX[Y'h\Y'i b]ei Y'W]fW a ghUbWfg'gh XYbhg'a UmZ]bX'h\Ya gY'j Yg'YI dYf]YbW]b[''

## 7 ci fgY GWX YXi `Y

#### J]Yk WUgg Ha YHUV Y

#### H]a YHJV`Y'

8 UHY	Hmd Y	7 cbhYbh
K YY_%%): YVfi Ufm!% : YVfi Ufm	Cb`]bY`5W1jj]m	=bHfcXiWF′mcifgY`Z°
		H\]gʻcb`]bYʻUWIjj]hmik]``VYʻUjU]`UV`Yʻdf]cfʻncʻh\Y VY[]bb]b[`cZkYY_`%UbX`bYYXgʻnc`VY`Wcad`YhYX`Vm h\Y`YbX`cZkYY_`%"GYY`AccX`Y`Zcf`acfY ]bZcfaUh]cbʻ
	@YWMifY	H\Y`dfcZYgg]cbU``UbX`j U`i Yg`VUgY`cZgcWJU``k cf_
	Hi hcf]U`	=blfcXiW1jcbihcih\YWcifgYiUbXWcbg]XYfUhjcb cZXYZjb]hjcbgicZgcWjU`ikcf_

K YY_`&.`&&`: YVfi Ufm!`& : YVfi Ufm	e*∥@YWnifY	GcWJU``kcf_`H\Ycfm`5b`cjYfj]Yk`
	Hi hcf]U`	AUdd]b[`H\Y`_bck`YX[Y`VUgY`cZgcW]U``kcf_ dfUVM]VW
K YY_''.'%A UfWX'!') A UfVX	@YWhifY	GcŴU`Kcf_JU`iYg'UbX'9ħ]Wg.'5Vcf][]bU``UbX HcffYg'GffU]h=g`UbXYf'kUgmcZ_bck]b[ž'VY]b['UbX Xc]b[
	Hi hcf]U`	GcW)U``K.cf_`JU`iYg`UbX`9h\]Wg.`K.\]HYbYggž Df]j]`Y[Y`UbX`8YWc`cb]g]b[`GcW]U``K.cf_
K YY_"(', "A UfVX"!"%&	@YWhi fY	DfUWjWYZjYXgUbXWcbhYIhg
a ufvx	Hi hcf]U`	91Ua]b]b[`Z]Y`Xg`UbX`WcbhYIhg`cZgcW]U``kcf_ dfUWf]WY`UbX`h\Y`gYWncfg`]b`k\]W\`gcW]U``kcf_Yfg dfUWf]WY
K YY_`).`%)`A UfV%`!`%- A UfV%	eywhify	· AYH∖cXgʻcZDfUWNJWY.`A]WfcʻUbX`AUWfcʻ@YjY`gʻcZ W\Ub[Y
		7cibgY``]b[ž7UgYkcf_ž7UgYAUbU[YaYbhž ;fcidkcf_ž7caaib]miKcf_žFYgYUfWXžDc`]Wm UbXGcWJU``5XjcWUWm
	Hi hcf]U`	AYH∖cXgʻcZDfUWNJWY.`A]WfcʻUbX`AUWfcʻ@YjY`gʻcZ W\Ub[Y
		7 cibgY``]b[ž7UgYkcf_ž7UgYAUbU[YaYbhž ; fcidkcf_ž7caaib]hmKcf_žFYgYUfWXžDc`]Wm UbXGcWJU``5XjcWUWm
	5ggYgga Ybh	5ggYgga Ybh%Xi Y : f]XUm%+h\ A UfVX
	Cb`]bY`5₩¶j]hm	6Yfk YYbik YY_gi)!+imciiik]``\UjYfkYicddcfhib]mihc UWf]jYimYIdicfYigcW]U`ik cf_iaYfkcXgicZdfUWf]WYž j]UicbYicfiacfYicZfkYiZc``ck]b[iUWf]j]f]Yg.i
		ł∵@]ghYbihcicbYicfiacfYicZh\Y fYWcaaYbXYXidcXWUghgik∖YfYigcW]U`ikcf_Yfg X]gWiggih\Y]fidfUWi]WY
		ŀ`@]ghYb`hc`cbY`cf`Vch∖`cZh∖Y`fYWcfXYX`dfU₩jW¥ X]g₩ gg]cbg`dfcj]XYX`
		ł̃K UHWX H∖Y fYWca a YbXYX Z]`a g#dfU₩jW¥ j]XYcg
		ł J]g]hUb U[YbWnUbX HU_Y bchYg UVci hmci f YI dYf]YbW
		8 c₩ a Ybhk \Uhmci `\Uj Y``YUfbh]b`U`V`c[ `cZUh`YUgh %\$\$`k cfXgž'UbX`U`gc`Wca a Ybhcb`Uh`YUghik c`ch\Yf

		UbX`dfUWY]V\Y`UgdYWrg`Zcf`rh]g`kYY_"`
K_YY_`%\$.`%_`5df]``!`&' 5df]`	@YWhifY	BYk `ĉifbYmg`]b`gcWJU``kcf_
	Hi hcf]U`	8YjY`cd]b[`U`dfUWM]WY`ZfUaYkcf_žh\Y`]adcfhUbWY`cZ gY`ZWUfYžWcbh]bi]b[`hc``YUfb`UbX``cc_]b[`hc`h\Y ZhifY
	5ggYgga Ybh	5ggYgga YbhΞ YK YXbYgXUm&, h\ 5df]`

FYgci fWfg

# Gi Va ]gg]cb cZ5ggYgga YbhHUg\_g

# Hi fb]h]b Gi Va ]gg]cb

Zmci YbWci bhYf'U'dfcV'Ya 'k \Yb'UhYa dhjb[ 'hc'gi Va ]hmci f'Ugg][ ba YbhN fci [ \ 'Hi fb]hjbž'd'YUgY hY'Yd\cbY'9I hYfbU'`Gi ddcfhcb'-', ) '' ' '%cf'Ya U]`'h\Ya 'cb'YI hYfbU'hY'hgi ddcfh4 i bgk "YXi "Ui '"'Gi ddcfh \ci fg'UfY', .\$\$Ua '-'%\$.\$\$da 'cb'k YY\_XUmg'UbX'-.\$\$Ua '-') .\$\$da 'cb'k YY\_YbXg'fl \*) 'XUmg'U'mYUfŁ''Zmci UfY'i bUV'Y'hc'gi Va ]hmci f'Ugg][ ba YbhXi Y'hc'U'ZJi 'hk ]h. 'Hi fb]hjb'mci 'a UmUdd`mZcf'Ub'YI hYbg]cbžVi hmci a i ghfYhU]b'mci f'hjW\_Yhbi a VYf'Zfca '9I hYfbU'`Gi ddcfhfU'cb[ 'k ]h. 'Ubmch\Yf'fY'Yj UbhXcW a YbhgŁ'hc ]bWi XY'Ug'Yj ]XYbWY hc'gi ddcfhimci f'YI hYbg]cb'Udd`]WUh]cb'''Zmci 'Ya U]`'9I hYfbU'`Gi ddcfhimci 'k ]`` Ui hca UhjWU'`mfYWY]j Y'U'hjW\_Yhbi a VYfž'Vi h]Zmci 'hY`Yd\cbY'mci 'k ]``bYYX'hc'gdYWJZWU``mUg\_'Zcf'cbY" Hi fb]hjb'U`gc'dfcj ]XYg'i dXUhYg'cb'h\Y]f'gmghYa 'gfUhi g'cb'Hk ]hYf"

; YbYfU``mž'UggYgga YbhHUg\_g`a i ghVY`gi Va ]HYX`Y`YWfcb]WU``mj ]U`Y]H\Yf`Hi fb]h]b`cf`U`A ccX`Y Ugg][ ba YbH'`=b`]bgHUbWfg`k \YfY`H\]g`]g`bchdcgg]V`Yž`]hk ]```VY`gHUHYX`cb`mci f`Wci fgY**'**g`A ccX`Y`g]HY`k ]H\ U`HYfbUh]j Y`gi Va ]gg]cb`XYHU]`g"

: cf`]bZcfa Uh]cb`cb`\ck `hc`gi Va ]hUgg][ ba Ybhg`cb`]bY`j ]U`A ccX`Y.`\hhdg.##gh XYbh'i bgk "YXi "Ui #\ck! gi Va ]hUgg][ ba Ybha ccX`Y

# 5WUXYa ]W<cbYghmUbX`D`U[ ]Uf]ga

D`U[]Uf]ga `]g`i g]b[`f\Y`k cfXg`cf`]XYUg`cZcf\Yfg`UbX`dfYgYbh]b[`f\Ya `Ug`mci f`ck b"`=fiWUb`hU\_Y`a Ubm Zcfa gžZfca `XY`]VYfUHY`W\YUh]b[`fc`UWN]XYbhU``mWcdm]b[`Zfca `U`gci fW'k]h\ci hUW\_bck `YX[Ya Ybh'

I BGK '[fci dg'd`U[]Uf]ga ']bhc'h\Y'Zc``ck ]b[ 'WUhY[cf]Yg.

7 cdm]b[. `i g]b[ `h\Y`gUa Y`cf`j Yfmig]a ]`Uf`k cfXg`hc`h\Y`cf][ ]bU``hYI h`cf`]XYU`k ]h\ci h`UW\_bck`YX[ ]b[ `h\Y

- i bXYfgHJbX'mci f`f][\hg`UbX'fYgdcbg]V]`]h]Yg`Ug`U`ghi XYbh'Uh'I BGK
- VY Uk UfY cZdU[]Uf]ga žWcdmf][ \lbzi BGK Ghi XYbh7 cXY cZ7 cbXi Wh0bX 5WW/dhUVY I gY cZ I BGK '=7 H'F Ygci fW/g'Dc']Wh
- VY Uk UfY cZh Y gHUbXUfXg cZVY Uj ]ci f YI dYWYX cZYj YfmcbY ]b h Y I BGK Wca a i b]m
- `cWUHY'gYfj ]WYg'UbX']bZcfa UHjcb'UVci hI BGK 'UbX'I BGK '@VfUfm

Gca YicZh\YgYiUfYUgik]``VYiZJa]`]Ufihcimci žich\Yfgik]``VYibYk"'; U]b]b[`Uigc`]Xii bXYfgHUbX]b[`cZU```h\Y fY`UhYXiUgdYWfgicZ9@=G9ik]``\Y`dimci ia U\_Yih\Yia cghicZmci fighi X]YgiUhil BGK"' <u>\hhd.#qi VYWfii]XYg"`]VfUfm"i bgk"YXi"Ui #Y`]qY#UVci hY`]qY</u>

# 5₩UXYa]W≠bZcfaUh]cb

: cf<sup>\*</sup>YggYbhJU<sup>\*\*</sup>gh XYbh<sup>\*</sup>]bZcfa UhJcb<sup>\*</sup>fY<sup>\*</sup>UhJb[<sup>\*\*</sup>hc.

- fYei Yghg Zcf Yl hYbg]cb/
- `UhY`gi Va ]gg]cbg`[ i ]XY`]bYg/
- fYj ]Yk 'cZa Uf\_g/
- I BGK '<YU`h`UbX'GUZYImidc`]WjYg/
- YI Ua ]bUh]cb^dfcW/Xi fYg/
- gdYWJU``Wcbg]XYfUh]cb`]b`h\Y`Yj YbhcZ]``bYgg`cf`a ]gUXj Ybh fY/