



# ARTS2127

; fYUh'D`Umg

HYfa `C.bY`#`&\$&\$

7ci fgY`Cj Yfj ]Yk

`GHUZZ7cbhUW`i8YHU]`g`

`7cbj Ybcfg`

|                  |                               |                   |   |                  |
|------------------|-------------------------------|-------------------|---|------------------|
| B Ua Y           | 9a U]`                        | 5j U]UV]]m        | @cWU]hcb  | D\cbY            |
| A Y[ `A i a ZcfX | a "a i a ZcfX4 i bgk "YXi "Ui | K YXbYgXUm' !) da | @Yj Y`%F cVYfh<br>K YVghYf'6`X[ ž<br>F cca `%%& | - ' , ) `( , * ) |

GWXcc`7cbhUW`i`bZcfa Uh]cb

Fcca ` ` %&ž`Yj Y`" `F cVYfhK YVghYf'6i ]X]b[

D\cbY. f\$&Ł- ' , ) `( , ) \*

9a U]: [gUa 4 i bgk "YXi "Ui](#)

K YVg]hY. [\hfdg.#gUa "Ufmg"i bgk "YXi "Ui](#)

H\Y`GWXcc`cZhY`5fmg`UbX`A YX]U`k ci `X`\_]Y`h`F YgdYWZ`m5W\_bck`YX[ Y`hY`HfUX]h]cbU`7i`g]hX]Ubgž`hY`6YXY[ U`fP`Ybg]b[ hcb`WUa`di`gŁž;`UX][ U`f7`]mUbX`5fhi`8Yg][ b`7Ua`di`gYgŁ`UbX`hY`B [ i`bbUk`U`

7ci fgY'8YHJ]`g

7fYX]h'Dc]bHg '\*`

Gi a a UfmcZ\Y'7ci fgY

# 5ggYgga Ybh

GYY'A ccXY"

## 5ggYgga YbhiHUg\_g`

|                      |          |   |   |
|----------------------|----------|---|---|
| 5ggYgga YbhiHUg_     | K Y][ \h | 8i Y'8UH  | Ghi XYbh@YUfb]b[<br>Ci hWta Yg'5ggYggYX |
| F Y\YUfgYX'F YUX]b[` | ) \$i    | h'Y`YWi fY#gYa ]bUf'g`chcb<br>(# 'cf'%%# 'cf'% # 'cf'&) # | %z&                                     |
| D`UhtYI h5bU'mg]g`   | ) \$i    | &+#\$( #&\$&\$' \$) .\$\$'DA                              | %z&Z ž(                                 |

## 5ggYgga Ybhi8YHU]`g

5ggYgga Ybh% 'F Y\YUfgYX'F YUX]b[

GHUfhXUH. 'Bch5dd]WV'Y

@Yb[ h. " \$( \$a ]bg

8YHU]`g. " \$( \$'a ]bi h' [ fci d' d'fYgYbhU]cb" H\Y'F Y\YUfgYX'F YUX]b[ 'dfYgYbhU]cb ]g'k cft\ " \$i 'UbX'h.Y  
 hX] ]Xi U'7 cblf]Vi hcb'hc'hY'F Y\YUfgYX'F YUX]b[ ]g'k cft\ &\$i "Mci 'k ]`fYW]j Y'U'Wta d'YhYX  
 5ggYgga YbhZcfa ]bWi X]b[ 'U'fi Vf]W]bX]WU]b[ ``Yj Y`cZdYfZcfa UbVW'U[ U]bghYUW\ 'UggYgga YbhW]hYf]Už  
 k f]hYb'Zcfa U]j Y'ZYXVUWž UbX'dYfW]bU] Y' [ fUXY"

5XX]h]cbU`XYHU]`g.

GYY'A ccXY"

Gi Va ]gg]cb' bchYg.GYY'A ccXY

Hi fb]h]b'gYh]b[ . H\]g ]g' bchU'H"      %      %      %      %



5 HbXUbW F Yei JfYa Ybhg

5 HbXUbW UH@YWi fYg UbX GYa JbUfg Jg'a UbXUhc fm]b H Jg Wci fgY Ug H YmUFY X]fYWhmUggcWUHX'k Jh 7 ci fgY @YUfb]b [ 'Ci H Wca Yg" ZU'gh XYbhZJ]g hc UHbX'k Jh ci h[ ccX'WUj gY H Y WUgg ]b k \]W H Y]f' [ fci d Jg'dfYgYbh]b [ 'H Y]f' F Y\YUfgYX'F YUX]b [ 'Zc'f UggYgga Ybh' H Jg'k ] VY Wci bh'X Ug'U'bcblgi Va Jgg]cb'cZ 5ggYgga Ybh%

H Jg H Y fYgdcbg]V]]micZYUWX'gh XYbh'c'a U\_Y'gi fY H Ymg][ b H Y'7 Ugg'F c' H UH]g'X]gh]Vi H X' ]b YUWX k YY\_ Zca 'K \_ '%cbk UfXg" H \]g'F c" ]g'X]gh]Vi H X'YUfm]b YUWX '& \f'WUgg" ZU'gh XYbh]g'i bUV'Y'hc UHbX U'WUggz H Ymg\ci 'X' ]bZca 'H Y'7 cbj YbcfZdfYZfUV'm]b UXj UbW'cZ H Y WUgg" K \YfY'fY'Yj Ubh' gi ddcf]b [ 'XcW'a Ybh]cb'g\ci 'X' VY'dfcj ]XYX'Ug'gccb Ug'dcgg]V'Y" '8 i f]b [ 'H Y'F Y\YUfgYX'F YUX]b [ dYf]cX'fK \_g'%hc '\* Lz'gh XYbh'g\ci 'X'U'gc' ]bZca 'H Y'gh XYbh: UW]Hhcffg]b' H Y]f' [ fci d"

7 ci fgY GWXYXi Y

[J Jk WUgg Ha YHUVY](#)

Hja YHUVY

| 8UH                                      | HmdY     | 7cbHYbh   |
|--|----------|---|
| K YY_ '% %+ : YVfi Ufm! &%<br>: YVfi Ufm | @YWi fY  | K YX' % - : YVzK YVgh'f' &+<br><br>HfcXi W]b [ 'H Y' Wci fgYz'Ug'k Y'' Ug'bc]cbg'cZ H Y [ fYUhid'Um'      |
|  | GYa JbUf | H\i fg'&\$'cf: f]X'&: YVz'6'cW_ ; %<br><br>5f]ghc hYf] H Yc'fmcZU [ fYUhid'Um' fDcYh]Wg'                  |
| K YY_ '& : YVfi Ufm! &,<br>: YVfi Ufm    | @YWi fY  | K YX' & * : YVzK YVgh'f' &+<br><br>5 [ fYUhi; fYY_ 'fU] YXm'  |
|  | GYa JbUf | H\i fg'&+'cf: f]X'& , z'6'cW_ ; %<br><br>Gh Xm]b [ 'd'chUbX'UW]cbz [ YbfY'UbX'cWU]cb''                    |
| K YY_ ' . :&'A UfW ! '*<br>A UfW         | @YWi fY  | K YX' ( 'A UfWzK YVgh'f' &+<br><br>5 [ fYUhi; fYY_ Wca YXm'   |
|  | GYa JbUf | H\i fg' ) 'A UfW'cf: f]X' * 'A UfWz'6'cW_ ; %<br><br>Gh Xm]b [ 'UbW]Ybh; fYY_ 'H YUfY'UbX'gcW]Yhm'        |
| K YY_ '( . : 'A UfW ! '%<br>A UfW        | @YWi fY  | K YX' % % 'A UfWzK YVgh'f' &+<br><br>5 [ fYUhiF YbU]ggUbW' fU] YXm'                                       |
|  | GYa JbUf | H\i fg' %&'cf: f]X' % : YVz'6'cW_ ; %<br><br>F YbU]ggUbW' ghU [ ]b [ z'ghU [ Y'X]fYW]cbg'UbX X]U'c [ i Y" |

|                                     |             |  |
|-------------------------------------|-------------|--|
| K YY_) .%* 'A UfWx '!&\$<br>A UfWx  | @YWh fy     | K YX'% 'A UfWxžK YVghYf' &+<br><br>5 '[ fYUh: fYbWx 'BYcWUgg]WU' 'Wta YXn'<br><br>5ggYgga Ybh% 'F Y\YUfgYX'F YUX]b[ (  |
|                                     | GYa ]bUf    | H\i fg'%- 'cf: f]X'&\$'A UfWxž6`cW_ ; %<br><br>: fYbWx 'BYcWUgg]WU' 'hYUhfYžghU[ Y'X]fYW]cbg'UbX<br>VXUfUWYf]nU]cb"  |
| K YY_)*. '& 'A UfWx '!&+<br>A UfWx  | @YWh fy     | K YX'&) 'A UfWxžK YVghYf' &+<br><br>9Ufm%- 7 'XcW XfUa U''<br><br>5ggYgga Ybh% 'F Y\YUfgYX'F YUX]b[ ( )  |
|                                     | GYa ]bUf    | H\i fg'&* 'cf: f]X'&+'A UfWxž6`cW_ ; %<br><br>HfYUha Ybhczh'Y'UW'cf#WUfUWYf]g'VcXm]b'fY'U]cb<br>hc' ]hg'Ybj ]fcb'Ybhg"   |
| K YY_+. ' \$'A UfWx '!"<br>5df]     | @YWh fy     | K YX'%5df]žK YVghYf' &+<br><br>@U]Y'%- 7 'BUh fU' ]ga "  |
|                                     | GYa ]bUf    | H\i fg'&'cf: f]X'' '5df]ž6`cW_ ; %<br><br>HfYUha YbhczZYa U'Y'VcX]Yg' ]b'fY'U]cb'hc'gcW]U'<br>fc'YgžfY'U]cbg'UbX'gdUWYg"   |
| K YY_ ; . '* '5df]'! '%\$ '5df]     | @YWh fy     | K YX' ; '5df]žK YVghYf' &+<br><br>A ]X'&\$7 '5Vgi fX]ga "  |
|                                     | GYa ]bUf    | H\i fg' - '5df]ž6`cW_ ; %<br><br>9b[ U[ Ya Ybhk ]h' ghmY'UbX'dcghk Uf'W' h' fY''<br><br>@4, 6gWfa fZW7SefWdZa fVSk fZWdW[e` a eW_ [ Sd<br>a` 8dVSk #'' 3bd[ž EfgVW fe [ fZ[e eW_ [ SdSdW<br>i WJa_ Wfa SffW V fZWI ] * eW_ [ Sda` FZgdVSk<br>[ eWVž 8adfZaeWi Za US` `af SffW V] S<br>dWb'SUW_ W f eW_ [ Sde'afi [^TW eUZWg^W [ Ua`<br>eg fSf[a` i [fZ fZWdWWhS` f efgVW fe [   ] # aX<br>fZUagdVž |
| K YY_ - . '% '5df]'! '%+<br>5df]    | @YWh fy     | K YX'%) '5df]žK YVghYf' &+<br><br>@U]Y'&\$7 'K cfX'XfUa U''  |
|                                     | GYa ]bUf    | H\i fg'%'cf: f]X'%'+'5df]žK YVghYf' &+<br><br>D`UmtYI hUbU'mg]g'gi f[ Yfm'   |
| K YY_ %\$. '&\$ '5df]'! '&(<br>5df] | 5ggYgga Ybh | F YUX]b[ 'K YY_!'bc'WUggYg''DfYdUfY'D`UmtYI h<br>5bU'mg]g"<br><br>5ggYgga Ybh&.  |

|  |  |
|--|--|
|  | D`UmhYI h5bU`mg]g`Xi Y`hc`Hi fb]hb`Vm) da `cb<br>A cbXUm&+ `5df]`" |
|--|--|



F Ygci fWg

DfYgWf]VYX`F Ygci fWg`

%&A ]W`K U``g`UbX`G]a cb`G\Yd\YfXžE fgVk[` Y B`Skef



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

D`U[ ]Uf]ga `]g`i g]b[ `hY`k cfXg`cf]XYUg`cZchYfg`UbX`dfYgYbh]b[ `hYa `Ug`mci f`ck b" `hWUb`hU`Y`a Ubm  
Zcfa gž`Zca `XY`]VYfUHY`WXYU]b[ `hc`UWV]XYbhU`mW`dm]b[ `Zca `U`gci fW`k ]h`ci hUW`bck`YX[ Ya Ybh`

I BGK `[ fci dg`d`U[ ]Uf]ga `]bhc`hY`Zc`ck ]b[ `WUHY[ cf]Yg.

7 cdm]b[ .`i g]b[ `hY`gUa Y`cf`j Yfmg]a ]Uf`k cfXg`hc`hY`cf][ ]bU`hYI hcf]XYU`k ]h`ci hUW`bck`YX[ ]b[ `hY`  
gci fW`cf`i g]b[ `ei chU]cb`a Uf`g" `H\]g`U`gc`Udd`]Yg`hc`]a U[ Ygž`UfhUbX`XYg][ b`dfc`YWgž`Ug`k Y`Ug  
dfYgYbhU]cbg`k \YfY`gca YcbY`dfYgYbh]g`UbchYf`g]XYUg`cf`k cfXg`k ]h`ci hW`YX]h`

hUddfcdf]UHY`dUfUd`fUg]b[ .`7`U`b[ ]b[ `U`ZYk`k cfXg`UbX`d`fUgYg`k`Y`a cghmifYU]b]b[ `hY`cf][ ]bU`  
ghfi W`i fY`UbX`#`f`dfc[ fYgg]cb`cZ]XYUg`cZ`hY`cf][ ]bU`ž`UbX`]bZcfa U]cb`k ]h`ci hUW`bck`YX[ Ya Ybh`H\]g`U`gc  
Udd`]Yg`]b`dfYgYbhU]cbg`k \YfY`gca YcbY`dUfUd`fUgYg`UbchYf`g]XYUg`cf`k cfXg`k ]h`ci hW`YX]h`UbX`hc  
d]YW]b[ `hc[ Y`hYf`ei chYg`UbX`dUfUd`fUgYg`]bhc`U`bYk`k`c`Yž`k ]h`ci hUddfcdf]UHY`fYZYfYbW]b[ "

7 c`i g]cb.`k cf\_]b[ `k ]h`chYfg`Vi hdUgg]b[ `cZ`hY`k cf\_]Ug`U`dYfgcb`g`]bX]j ]Xi U`k cf\_]7 c`i g]cb`U`gc  
]bWi XYg`dfcj ]X]b[ `mci f`k cf\_]hc`UbchYf`gh`XYbhVYZc`fY`hY`Xi Y`XUHYž`cf`Zc`f`hY`di fdcgY`cZ`hY`a

- i bXYfghUbx'mci f'f][ \hg'UbX'fYgdcbg]V]h]Yg'Ug'U'gh XYbhUhl BGK
- VY'Uk UfY'cZd'U[ ]Uf]ga ž'Wc'dmf][ \hž' BGK 'Gh XYbh7cXY'cZ7cbXi W'Ubx'5W'W'dhUV'Y'I gY'cZ I BGK '⇒H'F'Ygci f'W'g'Dc`]W'h
- VY'Uk UfY'cZ'Y'ghUbxUfXg'cZVY\Uj ]ci f'YI dY'W'X'cZYj Yfmcby']b'h'Y'I BGK 'W'a a i b]m
- 'cW'W'h'gYfj ]W'g'UbX' ]bZ'fa U]cb'UVci hl BGK 'UbX'I BGK '@]VfUfm

Gca Y'cZ'Y'gY'UfY'Ug'k ]''VY'ZJa ]]Uf'hc'mci ž'c'h'Y'fg'k ]''VY'bYk "'; U]b]b[ 'U'gc`]X'i bXYfghUbx]b[ 'cZU''h'Y fY'U'Y'X'UgdY'W'g'cZ9@-G9'k ]''\Y'd'mci 'a U\_Y'h'Y'a cgh'cZ'mci f'gh X]Yg'Uhl BGK ""

[\h'hd.##gi V'Y'W'f'i \]X'Y'g"'\]VfUfm'i b'gk "Y'X'i "U'i #' \]g'Y'#\]V'c'i h' \]g'Y](#)

