



# ARTS2091

A cV]Y`7i `h fYg

HYfa `Hk c`##`&\$&\$



GWXcc`cZHAY`5ftg`UbX`A`YXJU`..##`I`BGK`..5ftg`UbX`GcWJU`..GWYbWg

7ci fgY`Cj Yfj ]Yk

GhJZZ'7cbhJWw'8YhU]`g

7cbj Ybcfg

|                       |                                 |                |               |       |
|-----------------------|---------------------------------|----------------|---------------|-------|
| B Ua Y                | 9a U]                           | 5j U]'UV]]m    | @cWWhcb       | D\cbY |
| A ]WXY`Y`NUddUj ][ bU | a "nUddUj ][ bU4 i bgk "YXi "Ui | VmUddc]bħa Ybh | K YVghYf' %%F |       |

GW\cc``7cbhJWw'ħZcfa Uh]cb

GW\cc``cZħY`5frg`UbX`A YX]U

Fcca " %&ž@Yj Y`` žF cVYfhK YVghYf`6i ]X]b[ `f] %Ł

D\cbY. f\$&Ł-' , ) '( , ) \*

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

K YVg]hY: [k k k "Ufng"i bgk "YXi "Ui #gUa](#)

H\Y`GW\cc``cZħY`5frg`UbX`A YX]U`k ci `X``\_Y`ħ F YgdYWwz ``m5W\_bck `YX[ Y`ħY`HfUX]ħcbU``7i għcX]Ubgž  
ħY`6YXY[ U`fP`Ybg]b[ ħcb`Wħa di gŁž; UX][ U`f7 ]mUbX`5fñ/ `8Yg][ b`7 Ua di gYgŁ`UbX`ħY`B [ i bbUk U`  
dYcd' %&`

7ci fgY'8YHJ]`g

7fYX]hDc]bHg`\*`

Gi a a UfmicZh\Y'7ci fgY

A YX]U'UFY`]bWYUg]b[ `mdcfUUVYza cV]Yz`bYtk cf\_YX'UbX'i V]ei ]hci g"i hik \UhUFY'h\Y'WcbX]h]cbg'hUh\Uj Y  
[ ]j Yb'f]gY'hc'h\YgY'bYk'a YX]U'h\Wbc`c[ ]Yg'UbX'dfUW]WgžUbX'\ck'a ][\hk Y'fYgdcBx'hc'bYk'a cV]Y  
bYtk cf\_g'UbX'Zcfa g'cZdUfh]WdUh]cb'hUha cV]Y'a YX]U'U`ck 3': fca'a Ugg'a YX]U'hc'a Ugg'a ][\fU]cbž  
a cV] ]mi]g'cbY'cZh\Y`\_YmWcbWdHg'cZa cXYfb`]'ZY" H\]g'Wci fgY`]bj Ygh[ UH]g'a cV]Y'a YX]U`]b'h\Y'WcbhYI h  
cZh\Y'dYfj Ug]j YbYgg'cZa cV] ]mi]b'a cXYfb`]'ZY'UbX'h\Y'k Um]b'h\Wbc`c[ mYbUV'Yg'UbX'Wcbhfc`g'U`\_]bXg  
cZa cV]Y'W`hi fYg"

H\]g'gi VYWk ]`gi fj Ym\h\Y`\]ghcfmicZa cV]Y'UbX'dcfUUVY'a YX]U'Zca`hfUbg]ghcf'fUX]cg'h\fcI [ \`hc  
]D\cbYg'k ]h]b'U`Uf[ Yf'WcbhYI hcZa cV]Y'W`hi fYg`]b'k \]W'k Y'a cj Y'Zca žj ]U[ Y'hc'W]mž\ca Y`]'ZY'hc'WUf  
W`hi fYžZca`U]fdcfh]c`]b]hYfbYh'Gh XYbHg'k ]`VY'UV'Y'hc`]bj Ygh[ UH]h\Y'W ffYbhghU]h'cZd'Um]b'h\Y'a cV]Y

# 5ggYgga Ybh

## 5ggYgga YbhHUg\_g`

| 5ggYgga YbhHUg_    | K Y][ \h | 8i Y'8UHŸ                              | Ghi XYbh@YUfb]b[<br>Ci hŸca Yg'5ggYggYX |
|--------------------|----------|--|---|
| Hi hcf]U`HUg_g`    | &\$!     | &- # \$ * # & \$ & \$ % ) - `DA        | %ž&ž ž(                                 |
| G\cfh'9ggUm        | ) \$!    | % # \$ + # & \$ & \$ % ) - `DA         | %ž&ž(                                   |
| HU_Y!\ca Y`YI Ua ` | ' \$!    | &, # \$ + # & \$ & \$ \$ - . \$ \$ `5A | %ž&ž ž(                                 |

## 5ggYgga Ybh8YHU]`g

### 5ggYgga Ybh%`Hi hcf]U`HUg\_g`

GHUfhXUHŸ. `K YY\_`%hi hcf]U`

8YHU]`g.

Hi hcf]U`HUg\_g`Ÿca V]b]b[ `a i `h`d`Y`Ÿc]ŸŸ`UbX`g\cfhUbgk Yf`fYgdcbgYg`Yei ]j U`YbhŸc` , \$ \$ ! % \$ \$ \$ `k cfXg`]b hcf]U`

Ghi XYbŸg`k ]`fYŸŸ]j Y`fi Vf]W[ fUXY"

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

H\YgY`HUg\_g`k ]`Z`U`h`fY`g\cfhUbgk Yf`UbX`a i `h`d`Y`Ÿc]ŸŸ`ei Ygh]cbg`VUgYX`cb`h`Y`UW]j ]h]Yg`h`Uhmci`Xc`]b hi hcf]U`g`Z`ca`k`YY\_`&!`("Mci`k`]`Ubkg`Yf`cb`A`ccX`Y`UbX`h`Y`ei`Ygh]cbg`k`]`fYa`U]b`cdYb`i`bh`h`Y`Xi`Y`XUHŸ`]b`k`YY\_)`"

## 5ggYgga Ybh&`G\cfh'9ggUm

GHUfhXUHŸ. `Bch5dd`]WV`Y

8YHU]`g.

%) \$ \$ ! & \$ \$ \$ \$ `k cfXg`"Ghi XYbŸg`k ]`fYŸŸ]j Y`fi Vf]WUbx`Ÿca`a`YbŸg`"

Hi fb]h]b`gYh]b[ . `H\]g`Ugg][`ba`Ybh]g`gi`Va`]h]X`h`fci`[`\`Hi`fb]h]b`UbX`ghi`XYbŸg`Xc`bchgY`Y`Hi`fb]h]b`g]a`]Uf]hmifYdcfŸg`"

## 5ggYgga Ybh' .`HU\_Y!\ca Y`YI Ua

GHUfhXUHŸ. `&+#\$+#&\$&\$`\$- . \$ \$ `5A

8YHU]`g.

HU\_Y!\ca Y`YI Ua `Ÿcbg]gh]b[ `cZ' `g\cfhUbgk Yf`ei`Ygh]cbg`fYei`]f]b[ `W" \$ \$ `k cfX`Ubgk Yfg`"Mci`h`Uj`Y`&(

\ci fg'hc'gi Va ]hmc i f'Ubgk Yfg'Zca 'hY'ghUfhXUf'UbX'hja Y"

Hi fb]hb'gYhb[ . H\]g'Ugg][ ba Ybh]g'gi Va ]hX'hfci [ \ 'Hi fb]hb'UbX'gh XYbhg'Xc'bcgYY'Hi fb]hb  
g]a ]Uf]mfYdcfng"



F Ygci fWg

DfYgWf]VYX`F Ygci fWg`

H\Y`hI hVcc\_`Zcf`h]g`Wci fgY`]g.

NUddUj ][ bUZA "`f&\$%&L" 8]gWci fgY`cZHK ]hYf`UbX`GcWU`A YX]Už @cbXcbž7 cbh]bi i a "

h]g`Uj U]UV`Y`Ug`Ub`Y!Vcc\_`j ]U`hY`"]VfUfmcf`Ug`U`df]bhVcc\_`]b`hY`I BGK `Vcc\_g\cd"

F YWca a YbXYX`F Ygci fWg

F YWca a YbXYX`fYgci fWg`k ]`VY`]bW XXYX`]b`hY`fYUX]b[ ``]ghcb`A ccX`Y`j ]U`@Y[ Ubhc"

7ci fgY`9j U`i Uh]cb`UbX`8Yj Y`cda Ybh

: YXVUW\_`Zcf`h]g`Wci fgY`k ]`VY`[ Uh`YfYX`Vch`]bZcfa U`nž`]b`h hcf]U`gž`UbX`Zcfa U`nž`]U`hY`a m9I dYf]YbW`  
gi fj YmbYUf`hY`YbX`cZgYa YghYf"

h`dfYj ]ci g`mYUfg`gh XYbhg`\Uj Y`Ug\_YX`Zcf`V`YbXYX`YUfb]b[ `k ]h`YW`fYg`X`Y`] YfYX`cb`]bY""=\Uj Y  
fYgdcbXYX`hc`h]g`ZYXVUW\_`VmcZYf]b[ `cb`]bY`YW`fYg" H\Y`YW`fY`k ]`VY`XY`] YfYX`Ug`g\cfhj ]XYcgž  
U`cb[ `k ]h`chYf`fYgci fWg`gi W`Ug`a i`h]a YX]Užei ]nnYg`f`c`a U\_Y`gi fY`mci `i bXYfg]UbX`hY`a U`f]U`Ug  
k Y`a cj Y`h`fci [ \`hY`Wci fgY`ž`UbX`"]b\_g`hc`YI Ua d`Yg`cZa cV]Y`a YX]U`i gY"

Gi Va ]gg]cb`cZ5ggYgga YbhiHUg\_g

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

≠mci`YbWci`bHYf`U`dfcV`Ya`k` \Yb`UHYa`dh]b[`hc`gi`Va`]hmc`i`f`Ugg][`ba`YbhiHfci`[`\`Hi`fb]h]b`z`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`  
`lci`fg`UfY`,`.\$\$Ua`-`-%\$.\$\$da`cb`k`YY`XUmg`UbX`-`.\$\$Ua`-`).\$\$da`cb`k`YY`YbXg`f1`\*)`XUmg`U`mY`Uf2`≠mci`  
UfY`i`bUV`Y`hc`gi`Va`]hmc`i`f`Ugg][`ba`YbhiXi`Y`hc`U`ZU`h`k`]h`Hi`fb]h]b`mci`a`UmUdd`mZc`f`Ub`YI`HYbg]cb`z`Vi`hmc`i`  
a`i`ghfYhU]b`mci`f`h]W`Yhbi`a`VYf`Zca`9I`HYfbU`Gi`ddcfhfU`cb[`k`]h`Ubmc`h`Yf`fY`Yj`UbhXcW`a`Ybhtg`L`hc`  
]bWi`XY`Ug`Yj`]XYbVW`hc`gi`ddcfhmc`i`f`YI`HYbg]cb`Udd`]W]h]cb`≠mci`Ya`U]`9I`HYfbU`Gi`ddcfhmc`i`k`]`  
Ui`hca`UH]WU`mifYW]j`Y`U`h]W`Yhbi`a`VYf`z`Vi`h]Zmci`HY`Yd`cbY`mci`k`]`bYYX`hc`gdYW]Z]WU`mUg`Zc`f`cbY`  
Hi`fb]h]b`U`gc`dfcj`]XYg`i`dXUH`g`cb`h`Y]f`gmghYa`g`hU`h`g`cb`Hk`]hYf`"

;`YbYfU`mz`UggYgga`YbhiUg\_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`Ybhi`h`]bghU`bVW`g`k` \YfY`h`lg`]g`bchidcgg]V`Yz`]hk`]`VY`ghU`h`X`cb`mci`f`Wci`fgY`g`A`ccX`Y`g]h`k`]h`  
U`HYfbU]h]`Y`gi`Va`]gg]cb`XYhU]g`"

:`cf`]bZcfa`Uh]cb`cb`lck`hc`gi`Va`]hUgg][`ba`Ybhtg`cb`]bY`j`]U`A`ccX`Y`.`h`hdg`#gh`XYbhi`bgk`"YXi`"Ui`#ck`!  
gi`Va`]hUgg][`ba`Ybhta`ccX`Y`"

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

D`U[ ]Uf]ga `]g`i`g]b[ `h`Y`k`c`f`X`g`c`f`]X`Y`U`g`c`Z`c`h`Y`f`g`i`U`b`X`d`f`Y`g`Y`b`h]b[ `h`Y`a` `U`g`m`c`i`f`c`k`b`" `#`W`U`b`h`U`\_`Y`a` `U`b`m`  
Z`c`f`a`g`Z`Z`c`a` `X`Y`]V`Y`f`U`h`Y` `W`X`Y`U`h]b[ `h`c` `U`W`W`Y`X`Y`b`h`U` `m`i`W`c`d`m]b[ `Z`c`a` `U`g`c`i`f`W` `k` ]h`c`i`h`U`W`\_`b`c`k` `Y`X[ `Y`a` `Y`b`h`

I`B`G`K` `[`f`c`i`d`g`d`U[ ]Uf]ga `]b`h`c` `h`Y` `Z`c` `c`k` ]b[ `W`U`h`Y`[`c`f`]Y`g.

- 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'5Ww'dhUV'Y'I gY'cZ I BGK '⇒H'F Ygci fW'g'Dc`]Wm
- VY'Uk UfY'cZh'Y'ghUbxUfXg'cZVY\Uj ]ci f'YI dYW'X'cZYj Yfmcby'j]b'h'Y'I BGK 'Wc a i b]m
- `cWJh'gYfj ]Wg'UbX'j]bZcfa Uh]cb'UVci hl BGK 'UbX'I BGK '@]VfUfm

Gca Y'cZh'YgY'UfYUg'k ]`VY'ZJa ]]Uf'hc'mci ž'ch'Yfg'k ]`VY'byk " "; U]b]b[ 'U'gc`X'i bXYfghUbx]b[ 'cZU`h'Y fY'UH'X'UgdYW'g'cZ9@G9'k ]`Y'd'mci 'a U\_Y'h'Y'a cghcZmci f'gh X]Yg'Uhl BGK ""

[\hhd. #gj V'YWf i \]XYg" \]VfUfm'i bgk "YXi "Ui #` \]gY#JVci h' \]gY](#)

