



# ARTS2455

; YbXYf`]b`7 \]bU

HYfa `H\`fYY`##`&\$&\$

7ci fgY`Cj Yfj ]Yk

GHJZ`7cbHJW`8YHJ]`g

7cbj Ybcfg

|           |                            |             |         |       |
|-----------|----------------------------|-------------|---------|-------|
| B Ua Y    | 9a U`                      | 5j U]UV]`]m | @cW]hcb | D\cbY |
| DUb`K Ub[ | DUb`k Ub[ 4 i bgk "YXi "Ui |             |         |       |

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7ci fgY'8YHJ]`g

7fYX]hDc]bqg`\*`

Gi a a UfmicZ`h`Y'7ci fgY

H\]g`Wci fgY`YI d`cfYg`h`Y`XfUa Uh]WWXUb[ Yg`hc`[ YbXYf`UbX`gYI i U`]mibcfa g`YI dYf]YbWwX`VmdYcd`Y``j ]b[ ]b`7\]bU`cf`cdYfU]b[ ]b`h`Y`G]bcd\cbY`k`cfX``H\Y`Wci fgY`YI Ua ]bYg`h`Y`hfUbgZcfa Uh]cb`]b`h`YgY`fYU`a g Zca`]a dYf]U`h`a Yg`h`fci [ \`h`c`h`Y`W`ffYbhYfU``#ig\ck g`h`Y`cb[ c]b[ `h`Ybg]cb`VYhk`YYb`dcdi`Uf`]XYUg`UVci h ffUX]h]cbf]UbX`f`a`cXYfb]mf]Ug`[ YbXYf`UbX`gYI i U`]mibcfa g`UbX`dfUW]Wg`\Uj`Y`WwUb[ YX`cj`Yf`h`a`Y``#h`YI Ua ]bYg`]b`h`Yf`Yb]h]cbg`Vm7\]bUf]j`Uf]ci`g`[ cj`Yfba`Yb]g`UbX`Y[ U`gmg]h`a`g`UbX`WJa`dU][`bg`VmUW]j`]g]g`UbX`fYZcfa`Yfg`hc`WwUb[ Y`h`Y`g]h]g`g`ei`c`Ug`k`Y``Ug`h`Y`i`gY`cZgYI`UbX`[ YbXYf`VmWwYU]j`Y`Uf]h]g]g]k`f]h]fg`UbX`UXj`Yf]g]Yfg``Mci`k`]``YUfb`UVci`hd\Ybca`YbU`gi`Ww`Ug.`dfc[ fYgg`hc`k`UfXg`gYI`Yei`U`]m]h]h]bg]cbg`VYhk`YYb`]bX]j`]Xi`U`XYg]fYg`UbX`ZJa`]mdfYggi`fYž`@6;`H=W`h`i`fY`UbX`f][`h]g]ž`gcW]U`]gh]WwU`Yb[ Yg`hc`hfUX]h]cbž`7\]bYgY`a`UgW`]b]h]Yg`UbX`ZYa`]b]b]h]Yg`]b`cWw`UbX`[ `cVU`Wc`bh]i`h]g]ž`X]j`Yfg]m]b`[ YbXYf`UbX`gYI i U`]mibcfa g`Ua`cb[ `7\]bUf]j`bcb!<`Ub`Y`h`b]W]h]Yg`UbX`X]ZYfYbh]gcW]U`WUggYgž`W`ffYbhWwU`Yb[ Yg`]b`[ YbXYf`UbX`gYI i U`]mibcfa g`]b`fY`Uh]cb`hc`d\Ybca`Ybcb``]Y`ZJa`]m]Zcfa`Uh]cbž`Ya`d`cma`Yb]h]ž`dc`]h]Ww`

## 5ggYgga Ybh

8YHU]YX]bgfhi Wjcbg ZcfYUW UggYgga YbhHUg\_k j"VY'i d'cUXYX'hc'A ccX'Y"F YZf'hc'UggYgga YbhVf]YZ'

### 5ggYgga YbhHUg\_g'

| 5ggYgga YbhHUg_           | K Y][ \h | 8i Y'8UH'                  | Gh XYbh@YUfb]b[<br>Ci hWca Yg'5ggYggYX |
|---------------------------|----------|----------------------------|--|
| DfYgYbhUH]cb'Z' HfUbgW]dh | ' \$     | ( da 'cb'dfYgYbhUH]cb'XUm  | %z&Z ž( ž)                             |
| DYfgcbU'`bhfdfYUH]cb'     | &\$      | ( da 'Hi YgXUm]b'K YY_+'   | %z&Z ž( ž)                             |
| K f]h]b[ 'HUg_'           | ) \$     | ( da ' : f]XUm]b'k YY_`%\$ | %z&Z ž( ž)                             |

### 5ggYgga Ybh8YHU]`g

5ggYgga Ybh% 'DfYgYbhUH]cb'Z' HfUbgW]dh

GHUfhXUH'. 'K YY\_`&

8YHU]`g.

Gh XYbh]k j"dfYgYbhH]Y]f'i bXYfghUbX]b[ 'UVci hU'gY'ZgY'YWHX'WUgY'fY'UH'X'hc'h'Y'k YY\_f]X]gW gg]cb  
hc]d]W'H\Ymk j"VY'Ug\_YX'hc'dfca dhX]gW gg]cb'Zcf'h'Y]f'dYYfg"H\Y'ZYXVUW\_k j"VY'dfcj ]XYX'j ]U'U'F i Vf]W  
Zcf'DfYgYbhUH]cbg'W ffYbhm]b'i gY ]b'5g]Ub'Gh X]Yg'Wci fgYg"

@Yb[ h. ') 'hc'%'\$'a ]bi H'g

C fU'ZYXVUW\_''

Gi Va ]gg]cb'bchYg.Mci 'WU]b'YX]h]mci f'dfYgYbhUH]cb'UbX'h'Y'f'UbgW]dh]b'DDH'UbX'gUj Y' ]hUg'U'D8: 'Z]Y'Zcf  
Z]bU`gi Va ]gg]cb"

Hi fb]h]b'gYH]b[ . H\]g'Ugg][ ba Ybh]g'gi Va ]H'X'h'fci [ \ 'Hi fb]h]b'UbX'ghi XYbh]WU]b'gYY'Hi fb]h]b'ga ]Uf]hm  
fYdcf]g"

5ggYgga Ybh&. 'DYfgcbU'`bhfdfYUH]cb

GHUfhXUH'. 'Bch5dd']WU]V'Y

8YHU]`g.

Gh XYbh]k j"gi Va ]hU'dYfgcbU']nYX'UggYgga Ybh'hc'g\ck WUgY'h'Y]f'i bXYfghUbX]b[ 'UVci h[ YbXYf']b'7 \ ]bU"  
H\]g'UggYgga YbhWU]b'VY ]b'h'Y'Zcfa 'cZg\cfhYggUnž ]XYcž'XcW a YbhUfnž'dcgh'fž'dcXWU]ghž'Y'h'bc [ fUd\ ]W  
]bh]fj ]Yk ž'k YVg]h'cf'Ubmich'Yf'Zcfa U]rg" Gh XYbh]g'U'X]gW gg'h'Y]f'dfcdcgU'g'k ]h'h'Y'YWH'fYf'UbX  
cVHU]b'dYfa ]gg]cb'VY'ZcfY'gi Va ]h]b[ 'h'Y'UggYgga Ybh'

C fU'ZYXVUW\_''

Gi Va ]gg]cb' bchYg. D'YUgY' WēbUWWh' h'Y' h'UW' ]b[ 'ghUZZ]Zmēi 'UFY' i' bUV'Y' hē' gi Va ]h' h'Y' W'cgYb' Zcfa Uhiē  
h'Y' Ugg][ ba YbhVcl' ]b' A ccX'Y

Hi fb]h]b' gYh]b[ . H\]g' ]g' bchiU' Hi fb]h]b' Ugg][ ba Ybh

5ggYgga Ybh' . K f]h]b[ 'hUg\_

GhUfhXUHY. 'Bch5dd']WV'Y

8YhU]g.

Gh XYbthg' k ]' \Uj Y' h' c' cdh]cbg' Zc' f' h'Y' hUg\_ " 'C dh]cb' %' ]g' U' WU' " &ž( \$\$!k cFX' fYgYUfW' YggUm' Gh XYbthg' k ]' 'VY  
Ug\_YX' hē' gY' YW' h'U' fYgYUfW' 'ei Ygh]cb' Zc' a' 'U' bca' ]bU' h'X' ' ]gh' H\Y' ]f' hUg\_ ]g' hē' [ U' h'Y' f' fYgYUfW' 'a' U' h'Y' f' ]U' gž  
Wē' bglfi W' h'U' WY' Uf' UbX' 'c[ ]W' 'Uf[ i' a' YbhUfci bX' h'Y' fYgYUfW' 'ei Ygh]cbž' Vi' h'Y' g' h' ]g' Uf[ i' a' Ybhk' ]h'  
Yj ]XYbW' 'UbX' Wē' a' a' i' b]W' h'Y' ]b' U' WY' Uf' k' f]h'Y' b' ZUg\ ]cb' " H\Y' Yj ]XYbW' 'k' ]' 'VY' 'dfYgYb' h'X' ]b' Zc' fa' U' 'UW' X'Y' a' ]W  
bc' h'U' h]cb' UbX' XcW' a' YbhU' h]cb' " 'C dh]cb' &' ]g' U' W' h'U' W' fYZYW' h]cb' cZ' h'Y' Wē' i' fgY' " H\]g' hUg\_ ]g' Yei ]j U' Ybh' hē' h'Y'  
fYgYUfW' YggUm]b' h'Y' fa' g' cZk cFX' 'Yb[ h' " Gh XYbthg' k ]' 'k' f]h'Y' Y][ \h' '\$\$!k cFX' W' h'U' W' fYZYW' h]cbg' Vm' h'Y' YbX  
cZ' h'Y' h'Y' fa' 'hē' X'Y' a' cbgl' fU' h'Y' h'Y' f' i' bXY' fgh' UbX' ]b[ 'UVci h' h'Y' 'k' YY\_ 'm' hē' d]W' UbX' fYUX' ]b[ g' " H\Y' 'k' f]h]b[ 'hUg\_ ]g'  
h'Y' Z]bU' 'UggYgga Ybh' Zc' f' U' h'Y' bX' UbW' 'di' fdcgYg"

K f]h'Y' b' ZYXVUW\_ "

Hi fb]h]b' gYh]b[ . H\]g' Ugg][ ba Ybh]g' gi Va ]h'Y' h' fci [ \ ' Hi fb]h]b' UbX' gh XYbthg' W' b' gY' Y' Hi fb]h]b' g]a ]' Uf]m  
fYdcfthg"





F Ygci fWg

DfYgWf]VYX`F Ygci fWg`

F YZf'hc`k YY`\_mfYZfYbWg`UbX`@Y[ Ubhc`fYUX]b[ ``]gh]b`A`ccX`Y`

F YWca a YbXYX`F Ygci fWg

9Xk UfXgž`@`&\$\$, ž9 W VWd Ba`f[Uel S` V 6W\_ aUdSuk, I a\_ W e EgXcSYW[ 5Z[ SžGHJbZcFXž75žGHJbZcFX  
I b]j Yfg]mDfYgg"

9j Ubžž`<`"%- +žI a\_ W S` V eW]gS`fk [ 5Z[ S, Va\_ [ S` fV[eUagdeWé aXXW\_ S`WeW]gS`fk S` V YW VWd  
e[ UW#+&+ž7 Ua Vf]X[ Y.`Dc`]mDfYgg"

A Ubbž`@`G`&\$%ž9 W VWdS` V E W]gS`fk [ ? aVWd 5Z[ WeW: [efackž7 Ua Vf]X[ Y.`7 Ua Vf]X[ Y`I b]j Yfg]m  
DfYgg"

Gcb[ ; Yb[ `UbX`<]fXž8`" &\$%( ž? W S` V ? SeUg`f [fWé [ 5a`fW\_ badSck 5Z[ Sž@Y]XYbžBYhYfUbXg.`6f]`"

K Ub[ `DUb`&\$%) ž>ahWS` V ? Sdd[SYW[ 9`aTS`f [ Y 5Z[ Sž5V]b[ XcbžCI cb`/BYk `Mcf\_`. F ci hYX[ Y"

NUb[ `L]Uck Y]UbX`N\Uc`L]Uc`@`fYXgŁ&\$% ž: S` VTaa] a` fZW8S\_ [k S` V ? Sdd[SYW[ 5Z[ Sž9Xk UfX  
9`[ Uf"

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

H\]g`Wci fgY`k ]`VY`Yj U`i UH`X`j ]U`h`Y`a m9I dYf]YbW`gi fj Ymg`Uh`h`Y`YbX`cZ`h`Y`h`fa " `Zmci `Uj Y  
gi [ [ Ygh]cbg`cb`k Ung`hc`]a dfcj Y`h`Y`Wci fgY`Xi f]b[ `h`Y`h`fa žd`YUgY`ZY`ZY`h`c`Wca Y`UbX`h`\_`hc`i`g`K`Y  
k`Y`Wca Y`mci f`ZYXVUW`"



Gi Va ]gg]cb`cZ5ggYgga YbhiHUg\_g

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

Ʒmci`YbWci bHYf`U`dfcV`Ya`k` \Yb`UH`Ya` dh]b[`hc`gi`Va`]hmc`i`f`Ugg][`ba`Ybhi`h`fci`[`\`Hi`fb]h]b`z`d`Y`Ug`Y`  
HY`Yd`l`cb`Y`9I`HY`fb`U`Gi`ddc`fh`cb`-`,`)`"``"``%`cf`Ya`U]`h`Ya`i`cb`YI`HY`fb`U`HY`hgi`ddc`fh`4`i`bgk`"YXi`"Ui`"Gi`ddc`fh`  
l`ci`fg`UfY`,`.\$\$Ua`-`-%\$.\$\$da`i`cb`k`YY`XUmg`U`bX`-`.\$\$Ua`-`).\$\$da`i`cb`k`YY`YbXg`f`l`\*)`XUmg`U`m`Y`Uf`l`"Ʒmci`  
UfY`i`bUV`Y`hc`gi`Va`]hmc`i`f`Ugg][`ba`Ybhi`Xi`Y`hc`U`Z`Ji`h`k`]h`Hi`fb]h]b`mci`i`a`Um`Udd`m`Z`f`U`b`YI`HY`bg]cb`z`Vi`hmc`i`  
a`i`gh`f`Y`h]b`mci`f`h]W`Y`hbi`a`VY`f`Z`ca`9I`HY`fb`U`Gi`ddc`fh`f`U`cb[`k`]h`U`b`m`c`h`Y`f`f`Y`Y`U`b`h`X`c`W`a`Y`b`h`g`k`h`c`  
]b`Wi`XY`U`g`Y`j`]X`Y`b`W`h`c`gi`ddc`fh`mci`f`YI`HY`bg]cb`Udd`]W`h]cb`"Ʒmci`Ya`U]`9I`HY`fb`U`Gi`ddc`fh`mci`k`]`  
Ui`h`ca`U`h]W`U`m`f`Y`W`]j`Y`U`h]W`Y`hbi`a`VY`f`z`Vi`h]Z`mci`HY`Yd`l`cb`Y`mci`k`]`b`Y`Y`X`h`c`g`d`Y`W`Z`W`U`m`U`g`\_`Z`f`c`b`Y`"  
Hi`fb]h]b`U`gc`d`fc`j`]X`Y`g`i`d`X`U`h`Y`g`c`b`h`Y`]f`g`m`g`h`Y`a`i`g`h`U`h`g`c`b`H`k`]h`Y`f`"

;`Yb`Y`f`U`m`z`U`gg`Y`g`g`a`i`gh`V`Y`gi`Va`]h`Y`X`Y`Y`W`f`c`b]W`U`m`j`]U`Y`]h`Y`f`Hi`fb]h]b`c`f`U`A`cc`X`Y`  
U`gg][`ba`Y`b`h`i`h`]b`g`h`U`b`W`g`k` \Y`f`Y`h`l`g`]g`b`c`h`d`c`g`g]V`Y`z`]h`k`]`V`Y`g`h`U`h`Y`X`c`b`mci`f`W`ci`fg`Y`g`A`cc`X`Y`g`]h`k`]h`  
U`h`Y`fb`U`h]`Y`gi`Va`]gg]cb`X`Y`h]g`"

:`c`f`]b`Z`c`f`a`U`h]c`b`c`b`l`c`k`h`c`gi`Va`]h`U`gg][`ba`Y`b`h`g`c`b`]b`Y`j`]U`A`cc`X`Y`.\`h`d`g`#`g`h`X`Y`b`h`i`bgk`"YXi`"Ui`#`c`k`!  
gi`Va`]h`U`gg][`ba`Y`b`h`a`cc`X`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'Wcdmf][ \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`]b'h'Y'I BGK 'Wca a i b]m
- `cWJh'gYfj ]W'g'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 ""

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

5 WUXYa ]W=Zcfa Uh]cb

: cf`YggYbh]U`ghi XYbh]bZcfa Uh]cb`fY`Uh]b[ `tc.

- fYei Yg]Zcf`YI H`bg]cb/
-