



## ARTS2486

HY': fYbW 'GdYU\_]b[ 'K cfX

HYfa 'CbY' #'&\$&%

7ci fgY`Cj Yfj ]Yk

GHJZ7cbhJW`8YHJ`g

7cbj Ybcfg

B Ua Y	9a U]	5j U]`UV]]m	@cW]hcb	D\cbY
<i [i Yg`D9H9FG	\`dYHfg4 i bgk "YXi "Ui	VmUddc]bħa Ybh	A cfj Yb`6fck b &+)	- \$*) - ++)

GWcc``7cbhJW`bZcfa Uh]cb

GWcc``cZ<i a Ub]hYg`UbX`@Jb[ i U[ Yg

@cW]hcb. `GWcc``C Z]W`ZA cfj Yb`6fck b`6i ]X]b[ ž`@Yj Y``&ž&),

CdYb]b[ `<ci fg.`A cbXUm! : f]XUmž`- Ua `!) da

D\cbY. `ž`\*%&`- ' , ) `)%\*, %

: Ul. `ž`\*%&`- ' , ) ; , +\$)

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

# 7ci fgY'8YHJ]`g

7fYX]hDc]bHg`\*`

Gi a a UfmcZ\hY'7ci fgY

ቁ'ከ]g'Wፌi fgYžghi XYbhg'k ]`^Uj Y'hY'cddcfhi b]hmc'X]gWፌj Yf'hY'WbhfU']hmcZ\hY': fYbW\`Ub[ i U[ Y' ]b  
ZUa ]b[ : fYbW\`XYbh]mž'UbX'hc'YI d'cfY'hY'W ffYbhghUhi g'cZ\hY': fYbW\`Ub[ i U[ Y' ]b'gcW]Yh]Yg'UbX  
]bgh]hi h]cbg'Ufci bX'hY'k cfX'"H\]g'Wፌi fgY'k ]`dfcj ]XY'ghi XYbhg'k ]ከ'Ub'cj Yfj ]Yk'cZ\hY'\]g'hc'fmcZ\hY'  
: fYbW\`Ub[ i U[ Y'Zca' ]hg'cf] [ ]b'hc'hY'WፌbH'a dcfUfmdYf]cX'fY'Zc'fHg'hc'WፌX]ZhihY'`Ub[ i U[ Y'k ]`fYW]j Y  
dUfh]W`Uf'Ufh]bh]cbፌ'UbX'k ]ከ'Ub'cj Yfj ]Yk'cZ\hY'UW'i U'X] Yfg]hmcZ: fYbW\`]b: fUbW\`UbX'Ufci bX'hY'  
k cfX'f]b'hY'5a Yf]W]gž]b'5Z]W]UbX' ]b'9i fcdYፌž]bW' X]b[ 'hY'DUW]Z]WUbX'ፌX]Ub'C W'Ub'fY[ ]cbg'fፌZ]W]U  
dc']W]Yg'hc'UggYfhihY'ghUhi g'cZ: fYbW\`]b'hY'k cfX'k ]`fYW]j Y'dUfh]W`Uf'Ufh]bh]cbፌ'5'j Uf]YhmcZk f]hY'b  
UbX'Ui X]c!j ]gi U'a Ufh]f]Ug'k ]`VY'i gYX'hc' ]`i ghfUfh'hY'`YW'i fYg"

H\]g'Wፌi fgY' ]g'hUi [ \h]b'9b[ ]g\`UbX'k ]ከ'fYUX]b[ g' ]b'9b[ ]g\`

# 7ci fgY'@YUfb]b[ `Ci hWca Yg

%`%`8YgW]VY'hY'a U]b'ghU[ Yg'cZ\hY'\]g'hc'f]W]`Yj c'i h]cb'cZ: fYbW\`  
&`&`F YWፌ[ b]hY'hY'j Uf]ci g'Zc'fa g'cZ: fYbW\`hU'UfY'W ffYbhimgdc\_Yb' ]b'hY'k cfX'  
'`'`'`"I`gY'U'gYhcZ'WፌbW'dhg'gdYW]Z]W'hc'hY'X]gW]d' ]bY'gi W\`Ug'G'U'UbX'UfX': fYbW\`ž'W'Yc'Y'UbX'X] [ `cgg]U  
( "`8]gW'gg'UbX'fYZYW]hc'b'\ck'hY'Yj c'i h]cb'UbX'hY'W ffYbhghUhi g'cZ: fYbW\`Ub[ i U[ Y'fY'Ufh]g'hc'  
gcW]cdc']h]W]` ]ggi Yg  
)`)"`7ca dUfY'hY'gY'd\Ybca YbU'k ]ከ'hY'g]h U]h]cb'cZmci f'ck b'`Ub[ i U[ Y'

# HYUW\]b[ `GhfUfh[ ]Yg`

H\Y'Wፌi fgY' ]g'XYg] [ bYX'hc'Z]W] ]hU'hY'XYj Y'cda YbhicZU'gW\c'Uf'miUbX'W]h]W]`i bXYfghUbX]b[ `cZ\hY'  
Yj c'i h]cbž'YI dUbg]cb'UbX'W ffYbhghUhi g'cZ: fYbW\`]b'hY'k cfX'"H\Y'WፌbH]bh]g'f]W\`]b' ]bZc'fa U]h]cb'UVci h  
hY'`Ub[ i U[ Y'UbX' ]hUXXfYggYg'WፌbH'a dcfUfmgcW]YhU' ]ggi Yg'cZfY'Yj UbW'Zc'f: fYbW\`ghi XYbhg' ]b  
dfcZ'gg]cbU'`UbX'X]gW]d' ]bUfmiZ]Y'Xg"

ቁW'i g]j Y'hYUW\]b[ `ghfUfh[ ]Ygž'Ui X]c!j ]gi U'gi ddcfhiUbX'dYfY'Wፌ`UVcfU]h]cb'U]a`U'hYb[ U[ ]b[ `ghi XYbhg' ]b  
'YUfb]b[ `hY'gY'WፌbH]bhg'5'fUb[ Y'cZUggYgga YbhifUg\_g'UfY'gYh'hc'gi ddcfhihY'UW\]Yj Ya YbhicZ\_Ym  
\_bck`YX[ Y'fW]Ugg'hYg]ፌ'UbX'hY'XYj Y'cda YbhicZ]W]h]W]`h]b\_]b[ `UbX'fYZYW]hc'b\_g\_]`g'f'ፌi fbU'ž'hi hc'f]U'  
'YUXYfg\]dž'fYgYUfW'dfc'YWፌ": YYXVUW\_]g'fY[ i `Uf'mdfcj ]XYX' ]b'hY'h'hc'f]Ug'UbX'Wፌa d'Ya Ybhg  
gi a a U]h]Y'UggYgga Ybh'i'hY'fY'UfY'bc'Zc'fa U'YI Ua ]bU]h]cbg"

H\Y'HYUW\]b[ `UddfcUW\ ]bj c'j Yg'W]Ugg'X]gW'gg]cbg'Ug'k Y`Ug'ga U` [ fci d'X]gW'gg]cbg'Xi f]b[ `hY'  
hi hc'f]U'gž'UbX'Xi f]b[ `hY'`YW'i fYg'"H\]g' ]g'UW\]Yj YX'Vmia YUbg'cZU'j Uf]YhmcZ]hUg\_g'a cg'hcZk \]W\`fYei ]fY'  
ghi XYbhg'hc'dfYdUfY' ]b'UXj UbW"

H\Y'Wፌi fgY' ]g'hUi [ \h]b'9b[ ]g\`UbX'hY'fYUX]b[ g'UfY' ]b'9b[ ]g\`Ug' ]h]g'cbY'cZ\hY'WፌbH'i h U'gh X]Yg  
Wፌi fgY'g' ]b'hY'a U'cf' ]b: fYbW\`G'h X]Yg"

# 5ggYgga Ybh

## 5ggYgga YbhHUg\_g

5ggYgga YbhHUg_	K Y][ \h	8i Y'8UH	Gh XYbh@YUfb]b[ Ci hWta Yg'5ggYggYX
HYgh	&\$i	\$\$%# ' #&\$&%fK YY_' 7	%ž'
C fU'X]gW gg]cb'	&\$i	8 ]gW gg]cb'Xi f]b[ 'hi hcf]U'g. k YY_g '&hc' ) ž7 f]h]WU' fYZYW]cb'Xi Y'Vm) 'da 'cb'hY XUmcZhY'hi hcf]U'X]gW gg]cb	' ž(
; fci d'dfYgYbhU]cb'	&\$i	F YWcfXYX'dfYgYbhU]cb'Xi Y Vm) 'da 'cb'hY'XUmVYZcfY hY'hi hcf]U''8 ]gW gg]cb'cZ dfYgYbhU]cb'Xi f]b[ 'hi hcf]U'g. k YY_g + 'hc' %\$"	&ž(
: ]bU'YggUm	( \$i	\$' #) #&\$&%\$) . \$\$'DA	( ž)

## 5ggYgga Ybh8YHU]`g

5ggYgga Ybh% 'HYgh

@Yb[ h. 'WU''( ) 'a ]bi hYg

8YHU]`g.

C bY`]b!WUgg'ei ]n`Wc] Yf]b[ 'hY'WcbhYbhcZhY'Wci fgY'k ]`hU\_Y'd'UW'Xi f]b[ 'hY''YWh fYgž'WU''( ) 'a ]bi hYg"

: YXVUW\_j ]U`]b!WUgg'X]gW gg]cb'UbX'Wc'ffYW]cb'cZ hYgh'

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

H\Y'HYghk ]`VY'XcbY'cb`]bY'j ]U'A ccX'Y'Xi f]b[ 'hY'Z]fgh\ci f'cZhY'bcfa U`@97HI F 9'\ci fg'cb'k YY\_' "

Hi fb]h]b'gYh]b[ .'

5XX]h]cbU`XYHJ]g.

H\Y`Ufh]WYg`k ]`VY`Uj U]UV`Y`j ]U`A ccX`Y`"H\Y`[ fci d]b[ g`k ]`VY`W`cbg]h] h`X`Xi f]b[ `k`YY`\_%"

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]Xc`bchgYY`Hi fb]h]b`g]a ]Uf]mifYdcf]g"

5ggYgga Ybh` . ; fci d`dfYgYbh]h]cb

@Yb[ h. ; fci d`dfYgYbh]h]cb.`) `a ]bi h`g`dYf`ghi XYbh

8YHJ]g.

Gh XYbh]k ]`YUW`W`bhf]Vi h`h`c`U`% `a ]b[ fci d`dfYgYbh]h]cb`cb`U`h`d]WfY`Yj Ubh]c`h`Y`W`c` fgY`Z`gi [ [ Ygh`X`Vm]h`Y`W`bj Ybcf`"

: YYXVUW`\_j ]U`b]!WUgg`X]gW`gg]cb`Z`fi Vf]W`g`UbX`]bX] ]Xi U`k`f]H`b`W`c`a`a`Ybh]c`b`U`a`Uf`\_g`Y`Y`H`"

5XX]h]cbU`XYHJ]g.

H\Y`[ fci d`cfU`dfYgYbh]h]cb`k ]`VY`gi Va ]H`X`j ]U`J`c]W`H`fYUX`]b`h`Y`Z`c`fa`c`ZU`bUffU]H`X`Dck`YfDc]bh`XcW`a`Ybh]gi Va ]H`X`]b`U`j ]X`Y`c`Z`c`fa`U`h`h`Y`f`Y`W`c`f`X]b[ `f]b`a`d( `cf`Yei`j] U`Y`b]h`c`h`c`VY`gi Va ]H`X`Vm) da `h`Y`XUm`VY`Z`c`f`Y`h`h`c`f]U`XUm]f]"Z`c`b`K`Y`X`b`Y`g`X`Um`k`Y`k ]`U`j`Y`U`X]gW`gg]cb`UV`ci`h`h`Y`d`f`Y`g`Y`bh]h]cb`Xi`f]b[ `h`Y`h`h`c`f]U`cb`h`Y`Z`c`k`]b[ `XUm`"

5XX]h]cbU`m`Z`gi Va ]gg]cb`c`Z`h`Y`[ fci d`Dck`YfDc]bh`XcW`a`Ybh]b`d`X`Z`c`fa`U`h`c`b`A`c`X`X`Y`Vm) da `c`Z`h`Y`h`h`c`f]U`XUm]f]"Z`c`b`H`i`fg`X`Um`k`"

DG. `5`h`fb]h]j`Y`m`Z`h`Y`[ fci d`W`b`X`Y`W`X`Y`h`c`Xc`h`Y`d`f`Y`g`Y`bh]h]cb`g`m`b`W`f`c`b]W`m`mj`]U`6`U`W`V`c`U`f`X`7`c`U`V`c`f`U`H`I`h`f`U`X`i`f]b[ `h`Y`h`h`c`f]U`f]b]g]h`Y`U`X`c`Z`gi Va ]h]b[ `h`Y`XcW`a`Ybh]j ]U`J`c]W`H`f`Y`U`X`k`"

Gi Va ]gg]cb`b`c`h`Y`g. Gi Va ]gg]cb`c`Z`Dck`YfDc]bh`XcW`a`Ybh]j ]U`A`cc`X`Y`

Hi fb]h]b`gYH]b[ . H\]g`g`b`ch]U`Hi`fb]h]b`Ugg][ ba`Y`bh`

5ggYgga Ybh( . : ]bU`Y`ggUm`

@Yb[ h. `&Z`\$`\$`k`cfXg`

8YHJ]g.

: ]bU`Y`ggUm]c`Z`W`" `&Z`\$`\$`k`cfXg`Z`k`]h`U`dd`f`c`d`f]U`H`f`Y`Z`f`Y`b`W]b[ `Z`gi Va ]H`X`c`b`Hi`fb]h]b`"

: YYXVUW`\_j ]U`F`i`Vf]W`g`UbX`k`f]H`b`W`c`a`a`Ybh]c`b`Hi`fb]h]b`"

Hi fb]hb'gYhb[ . H\]g'Ugg][ ba Ybh]g'gi Va ]hX'h'fci [ \ 'Hi fb]hb'UbX'gh XYbhg'Xc' bchgYY 'Hi fb]hb  
g]a ]Uf]mfYdcfry"






		'8d` Y`S[e

## F Ygci fWg

DfYgWf]VYX`F Ygci fWg`

- 5`a UHf]U`g`hc`VY`a UXY`Uj U]UV`Y`cb`A ccX`Y

## F YWca a YbXYX`F Ygci fWg

- F Ygci fWg`hc`VY`a UXY`Uj U]UV`Y`cb`A ccX`Y
- < YfY`]g`U`gi [ [ YghYX`hYI hVcc`\_`fbcblWca di`gcfrt`mci`WUb`cfXYf`UhihY`Vcc`\_ghc`fy`]b`df]bhcf Y`YVWfcb]WZcfa Uh

F cXbYm6U`UbX`8Uk b`A UfYm`&\$%+`fgYWcbX`YX]hcbL`H\Y: fYbWk`GdYU\_]b[ `K cfX`5`dfUW]WU`  
]bfcXi W]cb`hc`gcWc`]b[ i ]gh]W]ggi Yg`F ci hYX[ Y`

Df]bh

[\hdg.##k k k "Vcc\\_g\cd"i bgk "YXi "Ui #XYhU\]g"W \]3+H9A BC1- +, %% \\_ , \\$%+\( \)](#)

8][ ]h`.

[\hdg.## bgk Vcc\\_g\cd"j \]h\]gci fW"Wca #dfcXi Wg#j - +, % %+\\* &\(, - -](#)

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

7ci fgYg`UFY`dYf]cX]WU`mifYj ]Yk YXz`UbX`gh XYbfg`ZYXVUW\_]g`i gYX`hc`]a dfcj Y`hYa " : YYXVUW\_]g  
[ U`hYfYX`Zfca`gh XYbfg`i g]b[ `a m9I dYf]YbW`" `h]g`YbWci fU[ YX`gh XYbfg`Wca d`Yh`hY]f]gi fj Ymg`Vm  
UWV]gg]b[ `hY`dYfgcbU`]gYX`k YV`]b\_] ]U`hY`A ccX`Y`Wci fgY`g]h`"

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`YUgY`  
HY`Yd`l`cb`Y`9I`HYfb`U`Gi`ddcfh`cb`-`,`)`"``"``%cf`Ya`Uj`h`Ya`icb`YI`HYfb`U`HY`hgi`ddcfh`4`i`bgk`"YXi`"Ui`"Gi`ddcfh`  
l`ci`fg`UfY`,`.\$\$Ua`-`-%\$.\$\$da`icb`k`YY`XUmg`UbX`-`.\$\$Ua`-`).\$\$da`icb`k`YY`YbXg`fI`\*)`XUmg`U`mY`UfI`"Ʒmci`  
UfY`i`bUV`Y`hc`gi`Va`]hmc`i`f`Ugg][`ba`Ybhi`Xi`Y`hc`U`Zi`h`k`]h`Hi`fb]h]b`mci`a`Um`Udd`m`Zc`f`Ub`YI`HYbg]cb`z`Vi`hmc`i`  
a`i`gh`fY`h]b]mci`f`h]W`Yhbi`a`VYf`Z`ca`9I`HYfb`U`Gi`ddcfh`f`U`cb[`k`]h`Ubmc`h`Y`f`fY`Yj`Ubh`Xc`W`a`Yb`hg`L`hc`  
]b`Wi`XY`Ug`Yj`]XYb`V`hc`gi`ddcfh`mci`f`YI`HYbg]cb`Udd`]W]h]cb`"Ʒmci`Ya`Uj`9I`HYfb`U`Gi`ddcfh`mci`k`]`  
Ui`hc`a`U]h]W]m`f`Y`W]j`Y`U`h]W`Yhbi`a`VYf`z`Vi`h]Z`mci`HY`Yd`l`cb`Y`mci`k`]`b`YYX`hc`gd`Y`W]Z]W]m`Ug`\_`Zc`f`cb`Y`"  
Hi`fb]h]b`U`gc`d`fcj`]XYg`i`d`XU`h`g`cb`h`Y]f`gm`gh`Ya`g`h`U`h`g`cb`Hk`]h`Y`f`"

;`Yb`Yf`U`m`z`Ugg`Ygga`Ybhi`Ug\_g`a`i`gh`VY`gi`Va`]h`Y`X`Y`Y`W`f`cb]W]m`j`]U`Y]h`Y`f`Hi`fb]h]b`cf`U`A`cc`X`Y`  
Ugg][`ba`Yb`h`i`h`]b`gh`U`b`W`g`k` \Y`fY`h`l`g`]g`b`ch`d`c`gg]V`Y`z`]h`k`]`VY`g`h`U`h`X`cb`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`"

:`cf`]b`Z`fa`U]h]cb`cb`l`ck`hc`gi`Va`]h`Ugg][`ba`Yb`hg`cb`]b`Y`j`]U`A`cc`X`Y`.`h`hd`g`#`gh`XYb`h`i`bgk`"YXi`"Ui`#`ck`!  
gi`Va`]h`Ugg][`ba`Yb`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] ]hYg'Ug'U'gh XYbhUhl BGK
-

## 5 WUXYa ]WbZcfa Uh]cb

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

- fYei Ygh]Zcf`YI H`bg]cb/
- `Uh`gi Va ]gg]cbg`[ i ]XY`]bYg/
- fYj ]Yk `cZa Uf\_g/
- I B GK `<YU`h`UbX`GUZY`midc`]WYg/
- YI Ua ]bUh]cb`dfcW`Xi fYg/
- gdYW]U`W`bg]XYfUh]cb`]b`hY`Yj YbhcZ]`bYgg`cf`a ]gUXj Ybh fY/
- gh XYbhYei ]mUbX`X]gUV`]m/
- UbX`c`hYf`YggYbh]U`UWUXYa ]W]bZcfa Uh]cbz`gYY