



# ARTS4249

H\Y`<i a Ub]hYgž'h\Yb`UbX`bck

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

7 ci fgY`Cj Yfj ]Yk

GhJZZ'7 cbhJWw'8 YhU]`g

7 cbj Ybcfg

B Ua Y	9a U]`	5j U]`UV]]m	@cWlhcb	D\cbY
@gU': cfX	""ZcfX4 i bgk "YXi "Ui	A cbXUm%%" \$!%" \$	' (*`A cfj Yb 6fck b	

GWxcc``7 cbhJWw' bZcfa Uh]cb

GWxcc``cZ<i a Ub]h]Yg`UbX:@Jb[ i U[ Yg

@cWlhcb. 'GWxcc``C Z]Wz'A 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]bhr`\*`

Gi a a UfmicZ\hY'7ci fgY

BchY. H\]g:]g'U'%&! C 7 'Wci fgY"'Mci 'k ]''Ybfc`]'b`\*`! C 7 ]b'YUWX'cZtk c'gi WWWgg] Y'h'fa g'k ]h'U'fYgi 'h fYdcfYX'VmU'g]b[ 'Y[ fUXY'Uh'hY'YbX'cZ\hY'gYWcbX`\*`! C 7 'Wci fgY"

H\]g:]g'U'WcfY'Wci fgY'Zcf'gh'XYbhr'Ybfc`YX']b`<cbci fg]'b'h'Y'GWcc`'cZ<i a Ub]h]Yg'UbX'@Ub[ i U[ Yg"'H\]g Wci fgY'U]a g'hc'Yei ]d'mci ž'Ug'Ub'UXj UbW'X'gh'XYbh]b'U'X]gW]d']bY'fYdfYgYb'h'X']b'h'Y'GWcc`'cZ <i a Ub]h]Yg'UbX'@Ub[ i U[ Ygž'k ]h'bYk 'g\_]`g'hc'`i bXYfghUbX'mci f'X]gW]d']bY']b'U'k ]XYf'fUb[ Y'cZXYVUH'g']b \i a Ub]h]Yg'UbX'fY'UH'X'U'fY'U'gh'X]Yg"'Mci 'k ]''VY'YI d'cgYX'hc'gca Y'cZ\hY''YUX]b[ ]ggi Ygž'XYVUH'g'UbX ]XYUg'h'Uh'W'cgg'X]gW]d']bY'Vci bXU'f]Yg']b'\i a Ub]h]Yg'UbX'U'fY'U'gh'X]Yg"'': c`ck ]b[ 'h'U'h'ž'mci 'k ]''[ U]b X]gW]d']bU'f'mXYd'h'h'fci [ \ 'ZcW'gYX'fYUX]b[ 'UbX'gh'Xn'

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

- % 5bU'mgY'X]ZYfYbhYd]ghYa c`c[ ]W'UbX'W'hi fU'f'fUX]h]cbg'k ]h]b'h'Y'<i a Ub]h]Yg'UbX'h'Y]f']bZi YbW'cb'h'Y'k ]XYf'k'cfX"
- &" 9j U'i UH'W'X'Ub[ ]b[ 'dYfgdYW]j Yg']b'h'Y'\]g'hc'fmcZU'gdYW]Z]WX]gW]d']bY'UbX'g]h'UH'h'Y'a ]b'fY'Uh]cb hc'V'fcUXYf'XYj Y'cda Ybhr']b'h'Y'<i a Ub]h]Yg"
- ' " 7ca a i b]WUH'Y'ZYW]j Y'mUbX'dfYgYbhk'cf\_]b'U'a UbbYf'h'Uh'W'cbZc'fa g'hc'g'W'c'U'f'm'W'cbj Ybh]cbg UbX'gi V'Y'W'h[i ]XY']bYg"

HYUWX]b[ 'GhfUH[ ]Yg'

H\Y'Wci fgY'k ]''VY'h'Uj [ \h]b'h'Y'Z]fghk YY\_g'h'fci [ \ 'U'U'f[ Y'gYa ]bU'f'Zcf'h'Y'Yb]h]fY'g'W'cc`'Wc'\cf'h'YX'VmU'g]b[ 'Y'W'cbj Yb'cf"'H\]g'k ]''VY'Zc`ck YX']b'UH'f'k YY\_g'VmX]gW]d']bU'f'mfYUX]b[ 'gYa ]bU'fg"'H\Y'Wca V]bU'h]cb k ]''dfcj ]XY'Zcf'h'Y'XYj Y'cda YbhcZ]bh'fX]gW]d']bU'f'mX]U'c[ i Y'U'W'cgg'Wc[ bUH'X]gW]d']bYg'UbX'bY'h'k'cf\_gž hc[ Y'h'Y'f'k ]h'h'Y'YI d'cfU'h]cb'cZ]gW]d']bY]gdYW]Z]W'h'Y'cfY'h]W'Zc'fa i 'Uh]cbg'UbX']ggi Yg"

5ggYgga Ybh


df]j UH' ]bX]j ]Xi U'g" =ggi Yg'cZdck Yf'UfY'Z bXUa YbH' ]hc 'hY'Wcbgfi W]cb'UbX'hY' ]bgh]i h]cbU' ]gU]cb'cZ'hY  
fYWcfX'UbX'cZUW]gg'hc' ]h'K \UhdfcW]ggYg'UfY' ]bj c'j YX' ]b'gY'YW]b[ 'hY'a UH'f]U'cZUb'UfW]j Y3'K \Uh

8Ygd]h'gca Y'ZU]bhg][ bg'cZfyj ]j U' ]b'hAY'UZhfafa UH'cZHAY'&\$\$, ; 'cVU': ]bUbWU'7 f]g]gžYWčbca ]W\]gřcřm  
\\Ug'fYa U]bYX'i bZUg\\]cbUV'Y'Ua cb[ 'Vcř' UWUXYa ]Wg'UbX'gh' XYbhg'g]bW' ]hg'dYU\_]b'hAY'XYWUXYg  
Z'čck ]b[ 'hAY'GYWčbX'K cfX'K Ufž'cj YfřU\_Yb'VmW' h' fUž[ 'YbXYf'UbX'dcghWč'cb]U'\\]gřcř]Yg''H\YfY'UFY  
a UbmfYUgcbg Zcř'h]g'i bdcđi 'Uf]mž'fUb[ ]b[ 'Zřca 'hAY'WUđh'fY'cZHAY'gi V!X]gWđ' ]bY'VmYWčbca Yřf]W]Ubg  
]a dcg]b[ 'gdYWU' ]gYX'a U'hYa UřWU'a cXY'g'cb'YWčbca ]Wd\\Ybca YbU' ]b'hAY'dUgřž'hc'fY'YW]cb'cZHAY  
XYhfafa ]b]gř]WUbx'fYXi W]cb]gh\\]gřcř]WU'a UghYf'bUffUř] Yg'hUhi bXYfd]bbYX'a UbmiA Uřl ]ghřcř'? Sđ [eS' řl  
k cf\_g'cZYWčbca ]W\]gřcřmž'hc'fYj i 'g]cb'Uhbyc' ]YfU'WU]a g'hUhiU'gcWU' ]Z'UbX'a YUb]b[ ' ]g'YWčbca ]W'  
8Ygd]h' h]g'i bdcđi 'Uf]mž'gca Y'cZHAY'a cghUa V]řci g'UbX'k ]XY'mfYUX'k cf\_g'cZ\\]gřcřmčZHAY'dUghh]řm  
mYřfg'\\Uj Y'VYYb'k ř]hYb Zřca 'Ub'Uj ck YX'm'YWčbca ]W'dYřgdYW]j Y''g ]hřa Y'Zcř'U'fYj ]j U'cZ]bhřYgh]b  
YWčbca ]W\]gřcřmUa cb[ ' \\]gřcř]Ubg3' <ck 'WU]b'Xi Y'UhYbh]cb'hc' YWčbca ]W\]gřcřmYbf]W' c'hYf'\\]gřcř]WU'  
UđđřcUWX'Yg3'hc'h' fb'h]g'ei Ygh]cb' i dg]XY'Xck b. 'UFY'h'YfY'Ubm\\]gřcř]WU' d\\Ybca YbU'hUhwU]b'VY  
UXYei UhY'mi bXYřgřcřX'k ]h'ci hUhwYbh]cb'hc' YWčbca ]WđřcřWggYg3' <ck 'a ][ \\hYWčbca ]W\]gřcřm]a đřcřj Y  
řcř'WU'Yb[ Ył'mci f'hYg]g3

Hi fb]h]b'gYř]b[ . H\]g'Ugg][ ba Ybh]g'gi Va ]hYX'h'řci [ \\Hi fb]h]b'UbX'gh' XYbhg'Xc'bcgYY'Hi fb]h]b  
g]a ]Uř]mřYđcřřg"

5ggYgga Ybh&.GYa ]bUř'dřYgYbhUř]cb'k ř]hY' i đ

@Yb[ h. , \$\$'k cfXg

8YřU]g.

7'Ugg'dřYgYbhUř]cbg'k ]''VY'Ugg][ bYX'hc'YUWX'gh' XYbh]b'hAY' ]bhřfX]gW]đ' ]bUřmđUřřcZHAY'Wč' fgY'' : c'čck ]b[  
hAY'dřYgYbhUř]cbž'gh' XYbhg'gi Va ]hU'Wř]h]WU'gi a a UřmUbX'fYZYW]cb'cb'hAY'dřYgYbhUř]cb'UbX'WUgg  
X]gW'gg]cb'řWU'' , \$\$'k cfXgł"

K ř]hYb'UbX'ř'cfU'ZYXVUW\_"

5XX]h]cbU'XYřU]g.

7'Ugg'dřYgYbhUř]cbg'k ]''VY'Ugg][ bYX'hc'YUWX'gh' XYbh]b'hAY' ]bhřfX]gW]đ' ]bUřmđUřřcZHAY'Wč' fgY'' : c'čck ]b[  
hAY'dřYgYbhUř]cbž'gh' XYbhg'gi Va ]hU'Wř]h]WU'gi a a UřmUbX'fYZYW]cb'cb'hAY'dřYgYbhUř]cb'UbX'WUgg  
X]gW'gg]cb'řWU'' , \$\$'k cfXgł"

5ggYgga Ybh' . @YUřb]b[ 'Đcřřc' ]c

@Yb[ h. %+\$\$

8YřU]g.

5'đcřřc' ]c'k \\YfY'gh' XYbhg'UXXfYgg' ]ggi Yg'UbX'ei Ygh]cbg'Zřca 'hAY]ř'k YY\_'mřYUX]b[ g'Zcř'hAY  
]bhřfX]gW]đ' ]bUřmđUřřcZHAY'Wč' fgY''H\Y'đcřřc' ]c' ]g'U'fYWčř'cZgř' XYbhgřđřYđUřUř]cb'Zcř'WUgg'YUWX'k YY\_'  
Gh' XYbhg'k ]'k ř]hY'Ug'U'a ]b]a i a ') ' ' '\$\$'k cfX'fYUX]b[ 'gi a a Uř]Yg'UbX'hYI h' U'UbU'mg]gž'Ug'k Y''Ug'U'&\$\$  
k cfX'fYZYW]cb'cb'hAY'fYgYUřW'đcřřc' ]c' ]hgY'Zřřž+\$ \$'k cfXg' ]b'hU'ł' H\Y'k ř]hYb'Zřca 'cZHAY'đcřřc' ]c' ]g  
'Ygg'Zřca U'hU]b'Ub'YggUmUbx'a UmVY'U'a ]l 'cZđřcřY'UbX'Vi ''Yhđc]bhg''H\]g'đcřřc' ]c' fYei ]řYg'gh' XYbhg'hc'  
fYZYW]cb'hAY]ř'ck b'YUřb]b[ ' ]b'hAY'Wč' fgY'UbX'čck 'UggYgga Ybh]Ug\_gž' ]bWi X]b[ 'hAY'fYgYUřW'đcřřc' ]c'  
]hgY'Z'a UmWčbhř]Vi hY'hc'h]g"

K f]hYb'UbX#cf'cfU'ZYXVUW\_"

5XX]h]cbU'XYHJ]g.

5'dcfhZc`jc`k`YfY'ghi`XYbhtg`UXXfYgg`]ggi`Yg`UbX`ei`Ygh]cbg`Zfca`h\Y]f'k`YY`\_mfYUX]b[ `g`Zcf`h\Y`  
]bHfX]gWd`]bUfmidUfhcZh\Y`Wci`fgY`"H\Y`dcfhZc`]c`]g`U`fYWcfX`cZghi`XYbhtgfidfYdUfU]cb`Zcf`WUgg`YUWX`k`YY`\_"`  
Gh`XYbhtg`k`]`k`f]hY`Ug`U'a`]b]a`i`a`')`I`"``\$\$`k`cfX`fYUX]b[ `gi`a`a`Uf]Yg`UbX`h\I`h`U`UbU`mg]gZ`Ug`k`Y`"Ug`U`&\$\$`  
k`cfX`fYZYW]cb`cb`h\Y`fYgYUfVX`dcfhZc`]c`]hgY`ZfWz+\$`k`cfXg`]b`hc`hU`L`"H\Y`k`f]hYb`Zcf`a`cZh\Y`dcfhZc`]c`]g`  
`Ygg`Zcf`a`U`h\Ub`Ub`YggUmUbX`a`UmVY`U'a`]l`c`ZdfcgY`UbX`Vi`"Yhdc]bhtg`"H\]g`dcfhZc`]c`fYeI`]fYg`ghi`XYbhtg`hc`  
fYZYW]cb`h\Y]f`ck`b`YUfb]b[ `]b`h\Y`Wci`fgY`UbX`ck`UggYgga`Ybh]Ug\_gZ`]bWi`X]b[ `h\Y`fYgYUfVX`dcfhZc`]c`  
]hgY`Z'a`UmWcb]f]Vi`h`hc`h\]g`"K`f]hYb'UbX#cf'cfU'ZYXVUW\_"

5 hYbXUbW F Yei ]fYa Ybhg

Gh XYbhg UfY gfhcb [ mYbWci fU[ YX hc UthYbX U WUggYg UbX fYj ]Yk YWfi fY fYWcfX]b[ g"

7 ci fgY GWYXi Y

[J Yk WUgg ha YhUVY](#)

Hja YhUV Y

8 UhY	HmdY	7 cbhYbh
<p>K YY_% " %A Um! ( &gt;i bY</p> <p>fDf]bW hcb l b] Yfg]m</p>	<p>F YUX]b[</p>	<p>B CH9 H&lt; 5H H&lt; -G 7 C I F G9 GH5F HG B K 99? - cZH% F Yei ]fYX fYUX]b[ g Zcf hY Zfghi h fY Y k YY_g Zc ck " GYY A ccX Y Zcf Gi [ [ YghYX F YUX]b[ g"</p> <p>%&amp; 5df] . @cghK cfXg # @cghK cfXg k ]h @]gU : cfX</p> <p>F Yei ]fYX .</p> <p>; fY [ 5bXYfgcbz " F Yf]Yj ]b [ hY @cghK cfXg cZH Y DUgh H Y 7 UgY Zcf Ub C brc c [ ]W Hi fbz FZW 3_ Wd US : [efad US ^D Wh [W %&amp;\$ " f&amp;\$%) E +, +- , %\$Z E i Ybh b G_]bbYfz " A YUb]b [ UbX l bXYfghUbX]b [ ]b h Y &lt; ]gtrfmcZ X Y Ug " H [e[a e aXBa ff]Ue, DW Sd [ Y _ WZaV f7 Ua Vf]X [ Y l b] Yfg]m DfYggz &amp;\$ \$ &amp; E</p> <p>% 5df] . H Y K f]hY b 5fW ]j Y k ]h @]gU : cfX F Yei ]fYX .</p> <p>5bb @Ui fU Grc Yf " H Y Di gY cZH Y 5fW ]j Y " 3 a ` Y fZW3dJ [hS ^9 dS [ , 7b [efW_ [U 3 j ]Mf]V S V 5a a ` [S ^5 a _ _ a ` E W eWfDf]bW hcb l b] Yfg]m</p>




F Ygci fWg

DfYgWf]VYX`F Ygci fWg`

Bch`h`Uh`h`jg`Wci`fgY`VY[ `]bg`]b`K`YY\_`-`icZH%f%&`5df]e" `=k`]`U`gc`]`ghfYUX]b[ `g`]b`U`"dXZcb`h`Y`k`YVdU[ `Y`  
H\]g`Wci`fgY`ci`h]bY`cb`midYftU]bg`fc`h`Y`<`]g`hcfmUbX`5fYU`Gh`X]Yg`GhfYUa`" `C`h`Yf`gh`XYb`hg`g`ci`X`Wcbgi`h`  
k`]h`h`Y]f`gi`dYfj`]gcfg"

F YWca a YbXYX`F Ygci fWg

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

5g`h`jg]g`h`Y`Zfgh]ja`Y`=\Uj`Y`Wcbj`YbYX`h`jg`dUfhcZ`h`Y`Wci`fgYz`=Ua`dUfh]W`Ufmi`YYb`fc`gYY`\_`mci`f`  
ZYXVUW`\_`cb`h`Y`h`Ya`YgZ`Wcb`h`b`h`z`gf`i`W`h`fY`UbX`h`ja`YhUV`]b[ `Vc`h`]b`Z`fa`U`m]b`WUgg`X]gW`gg]cbg`UbX`  
Z`fa`U`m]b`A`m9l`dYf]YbW`fYj`]Yk`g" `=U`k`Umj`fYj`]gY`Wci`fgY`a`Uh`f]U`g`UbX`h`UW`X]b[ `Uddfc`UW`X`Yg`]b`  
fYgdcbgY`fc`ZYXVUW`\_`"

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]bzd`YUgY`  
HY`Yd\cbY`9I`HYfbU`Gi`ddcfhcb`-`,`)`"``"``%cf`Ya`Uj`h`Ya`icb`YI`HYfbU`HY`hgi`ddcfh4`i`bgk`"YXi`"Ui`""Gi`ddcfh`  
\ci`fg`UfY`,`.\$\$Ua`-`-%\$.\$\$da`icb`k`YY`XUmg`UbX`-`.\$\$Ua`-`).\$\$da`icb`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`Zi`h`k`]h`Hi`fb]h]b`mci`a`UmUdd`mZc`f`Ub`YI`HYbg]cbz`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`Uj`9I`HYfbU`Gi`ddcfhmc`i`k`]`  
Ui`hca`U]WU`mifYW]j`Y`U`h]W`Yhbi`a`VYfz`Vi`h]Zmci`HY`Yd\cbY`mci`k`]`bYYX`hc`gdYW]Z]WU`mUg`Zc`f`cbY`  
Hi`fb]h]b`U`gc`dfcj`]XYgi`dXUH`g`cb`h`Y]f`gmghYa`ig`hU`h`g`cb`Hk`]hYf`"

;`YbYfU`mz`UggYgga`YbhiHUg\_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`\ck`hc`gi`Va`]hUgg][`ba`Ybhtg`cb]bY`j`]U`A`ccX`Y`. \hhdg.#gh`XYbhi`bgk`"YXi`"Ui`Ack`!  
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']hYg'Ug'U'gh XYbhUhl BGK
-

# 5 WUXYa ]WbZcfa Uh]cb

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

- fYei Yghg`Zcf`YI H`bg]cb/
- `UhY`gi Va ]gg]cbg`[ i ]XY`]bYg/
- fYj ]Yk `cZa Uf\_g/
- I B GK `<YU`h`UbX`GUZYmidc`]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 ]m]UbX`X]gUV`]m/
- UbX`c`hYf`YggYbh]U`UWUXYa ]W]bZcfa Uh]cbz`gYY

[\ftdg.#k k k "Uftg"i bgk "YXi "Ui #W ffYbhgh XYbh\]UWUXYa \]W\]bZcfa Uh\]cb#dfchW`g`\[ i \]XY`\]bYg#](#)

⇒ a U[ Y`7 fYX]h

5i [ i gh g`9UfYz`f] ]Yk g`]b`5i ghfU`]Uz`WJ"% & \* fifGmXbYmi. `9UfYfj`@]h.c[ fUd\`mz`WJ"% & \* tZA ]hWY``@]VfUfmz`GHU`@]VfUfmcZBYk `Gci h`K U`Ygz`%`\$` ' ) \$( ' žDL†8 " &%"

7F ⇒ CG

7F ⇒ CG`Dfcj ]XYf`7cXY. '\$\$-\$, ;