



# ARTS2692

GmbhUl

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



7ci fgY'8YHJ]`g

7fYX]hDc]bmg`\*`

Gi a a UfmicZ\hY'7ci fgY

Gi V\YWh5fYU.`>[ Yg[ef[Ue

H\]g`Wci fgY`ZcW`gYg`cb`gmbHUI`-`hfUX]h]cbU`mXYZ]bYX`Ug`hY`gh`XmicZ\hY`[ fUa`a`Uh]W`fY`Uh]cb`VYhk`YYb`k`cfXg`k`]h]b`hY`gYbhYbW`"H\Y`Wci fgY`UddfcUWX`Yg`hY`gh`XmicZgmbHUI`Zfca`hY`dYfgdYW]j`Y`cZ`[ YbYfUh]`Y`b[i`]gh]Wg`"aiYI`d`cfYg`hY`a`YhcXc`c`[ ]W`Zci`bXUh]cbg`cZ\hY`[ YbYfUh]`Y`b[i`]gh]Wg`ZfUa`Yk`cf`\_`k`]h`dUfh]W`Uf`fYZ`fYbW`hc`hY`d`UW`cZgmbHUI`]b`hY`gh`XmicZ\hY`\i`a`Ub`Ub[i`U`[ Y`ZUW`"m`"H\Y`Wci fgY`]bj`Ygh[`Uh]g`U`bi`a`VYf`cZ`\_Ym`hY`cfYh]W`Wc`bghf`Wg`h`Uh]U`hY`a`dh`hc`U`VW`ci`bh`Zc`f`V`ch`i`b]`YfgU`UbX`Ub[i`U`[ Y!gdYW]Z]WgmbHUI]Wd\Ybca`YbU`"Mci`k`]`\Uj`Y`hY`cddcfh`b]m]hc`UbU`mgY`XUH]Zfca`'9b[`]g\`UbX`U`k`]XY`fUb[ Y`cZX]ZY`fYbh`Ub[i`U`[ Yg"

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

%`9I`d`U]b`hY`Wc`bW`dh`U`UbX`Ya`d]f]W`Zci`bXUh]cbg`cZ`[ YbYfUh]`Y`gmbHUI`"  
&"`5dd`miVUg]W`hY`W`b]ei`Yg`cZgmbHUI]W`UbU`mg]g"  
'`" `5bU`mgY`gmbHUI]W`XUH]`UbX`Uf[ i`Y`hY`a`Yf]g`cZ\hY`UbU`mg]g"  
(`" `7cbghf`W`ha`cXY`g`cZgmbHUI]W`\_bck`YX[ Y`hc`]bj`Ygh[`Uh]`UbX`UW`ci`bh`Zc`f`XUH]Zfca`'9b[`]g\`UbX`U`k`]XY`fUb[ Y`cZX]ZY`fYbh`Ub[i`U`[ Yg"

HYUWX]b[ `GhfUH[ ]Yg`

H\Y`hYUWX]b[ `ghfUH[ ]Yg`]bj`c`j`Y`YWh`fYg`UbX`h`hc`f]U`g`"H\Y`h`hc`f]U`g`UfY`XYg][`bYX`hc`Zc`ghYf`]bX]j`]Xi`U`dfcV`Ya`gc`j`]b[ `g\_]`g`Ug`k`Y`Ug`Yb[ U[ Ya`Ybh]b`Wc`UVcfUh]`Y`hY`Ua`k`cf`\_"

# 5ggYgga Ybh

## 5ggYgga YbhHUg\_g`

5ggYgga YbhHUg_	K Y][ \h	8i Y`8UH`	Gh XYbh@YUfb]b[ Ci hWta Yg`5ggYggYX
!WUgg`HYgh=	' \$i	K YY_;	%z&
!WUgg`HYgh=	' \$i	K YY_)	&Z
DfcV`Ya `gYh`	( \$i	\$' #)\$ #&\$%- '\$(. \$+'DA	&Z ž(

## 5ggYgga Ybh8YHU]`g

5ggYgga Ybh% `!WUgg`HYgh=

GHUfhXUH`.

8YHU]`g. `(\$`a`b`h`ghc`b`h`cd]Wg`Wc] YfYX`]b`h`Y`Y`W`h`f`y`g`Ub`X`h`h`cf]U`g`M`c`i`k`]`f`Y`W`j`Y`Z`Y`X`V`U`W`]`b`X`j`]X`i`U`m`Ub`X`h`f`c`i`[`\`W`U`g`g`X`]`g`W`g`g`c`b`"

5ggYgga Ybh& `!WUgg`HYgh=

GHUfhXUH`.

8YHU]`g. `(\$`a`b`h`ghc`b`h`cd]Wg`Wc] YfYX`]b`h`Y`Y`W`h`f`y`g`Ub`X`h`h`cf]U`g`M`c`i`k`]`f`Y`W`j`Y`Z`Y`X`V`U`W`]`b`X`j`]X`i`U`m`Ub`X`h`f`c`i`[`\`W`U`g`g`X`]`g`W`g`g`c`b`"

5ggYgga Ybh' .DfcV`Ya `gYh`

GHUfhXUH`.

8YHU]`g. H\]g`]g`U`h`U`Y!\`ca`Y`U`gg][`ba`Y`bh`k`\]W`W`c]`Y`f`g`U`h`Y`a`U`c`f`h`c`d]W`g`c`Z`h`Y`W`c`i`f`g`Y`@`Y`b`[`h`.%`\$\$`k`c`f`X`g`"G`h`X`Y`b`h`g`k`]`f`Y`W`j`Y`]`b`X`j`]X`i`U`Z`Y`X`V`U`W`"H\]g`]g`h`Y`Z`b`U`U`g`g`Y`g`g`a`Y`b`h`U`g`\_`Z`c`f`U`h`Y`b`X`U`b`W`d`i`f`d`c`g`Y`g`"

Gi Va ]gg]cb`b`ch`Y`g.H\Y`h`U`Y!\`ca`Y`d`f`c`V`Y`a` `g`Y`h`]g`\`U`b`X`Y`X`c`i`h`c`b`Y`k`Y`Y`\_`d`f`c`f`h`c`]`g`X`i`Y`X`U`h`"

Hi fb]h`b`g`Y`h`b[ .H\]g`U`gg][`ba`Y`bh`]g`g`i`Va`]h`X`h`f`c`i`[`\`H`i`f`b`]h`b`U`b`X`g`h`i`X`Y`b`h`g`X`c`b`c`h`g`Y`Y`H`i`f`b`]h`b`g`a`]U`f`]m`i`f`Y`d`c`f`g`"





Gi Va ]gg]cb`cZ5ggYgga YbhHUg\_g

Gi Va ]gg]cb`cZ5ggYgga YbhHUg\_g

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

Ẓmci `YbWci bhYf`U`dfcV`Ya `k \Yb`U`H`Ya dh]b[ `hc`gi Va ]hmc`i f`Ugg][ ba YbhHfci [ \`Hi fb]h]bžd`YUgY  
H`Yd\cbY`9I H`fbU`Gi ddcfhcb`-` , ) `` `` ` %cf`Ya U]`H`Ya `cb`YI H`fbU`H`hgi ddcfh4 i bgk "YXi "Ui ``Gi ddcfh  
\ci fg`UfY` , .\$\$Ua `--`%\$. \$\$da `cb`k YY\_XUmg`UbX`- . \$\$Ua `--` ) . \$\$da `cb`k YY\_YbXg`fI \*) `XUmg`U`mYUfL` Ẓmci  
UfY`i bUV`Y`hc`gi Va ]hmc`i f`Ugg][ ba YbhXi Y`hc`U`ZU`i`hik ]H`Hi fb]h]b`mci `a UmiUdd`miZc`f`Ub`YI H`bg]cbžVi hmc`i  
a i ghfYH]b`mci f`h]W`Yhbi a VYf`Zca `9I H`fbU`Gi ddcfhfU`cb[ `k ]H`UbmchYf`fY`Yj UbhXcW a YbHgE`hc  
]bWi XY`Ug`Yj ]XYbW`hc`gi ddcfhmci f`YI H`bg]cb`Udd`]W]h]cb" Ẓmci `Ya U]`9I H`fbU`Gi ddcfhmci `k ]`

## 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[ YgžUfhUbX`XYg][ b`dfc`YWgžUg`k Y`Ug  
dfYgYbhU]cbg`k \YfY`gca YcbY`dfYgYbh]g`UbchYf`g]XYUg`cf`k cfXg`k ]h`ci hWYX]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`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 hWYX]hU`bX`hc  
d]YW]b[ `hc[ YhYf`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'j]b'h'Y'I BGK 'W'a a i b]m
- 'cW'W'h'gYfj ]W'g'UbX'j]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'Yfg'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 cghcZmci f'gh X]Yg'Uhl BGK ""

[\h'hd.##gi V'Y'W'i \]X'Yg''j\]VfUfm'i bgk "YXi "Ui #' \]gY#J'Vci h' \]gY](#)

5 WUXYa ]WbZcfa Uh]cb`

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

- fYei Ygh]Zc`fYI h`bg]cb/
- `Uh]`gi Va ]gg]cbg`[ i ]XY`]bYg/
- fYj ]Yk `cZa Uf\_g/
- I BGK `<YU`h`UbX`GUZY`midc`]WYg/

