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7 \ Ud hYf ` %) <] [\ ! E i U `] h m i 9 U f ` m i A U h \ . @ Y U f b] b [` U b X ` H Y U V X] b [` K] h \ ` . H f U ` Y V W c f] Y g ` U b X ` H Y V X b c ` c [] Y g

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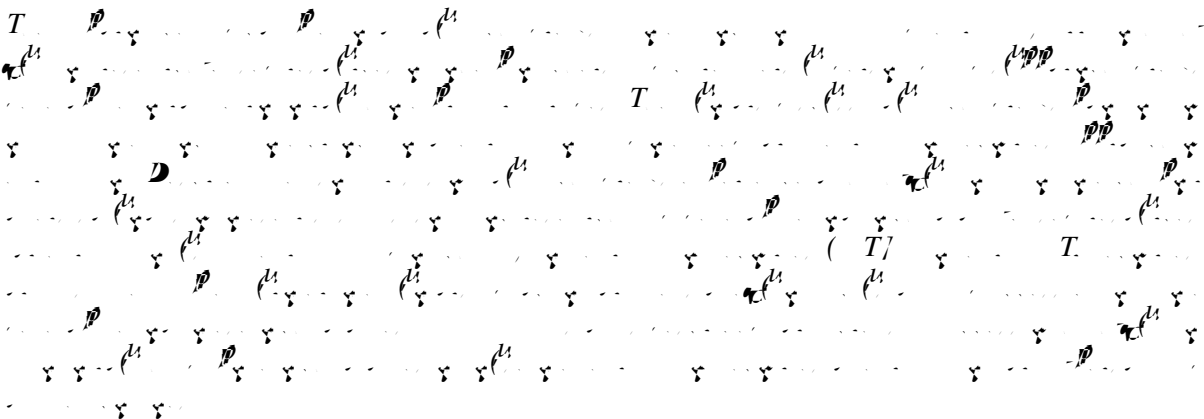
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ABSTRACT



DOI: 10.4018/978-1-7998-8649-5.ch015

3@,3*" ,&7#* < ,3@*8-%\$7" ' /"* .(* ,*(3&% - /;* ;&" ' .23%&*%K*7,3"&* ,2@." : "<" -3*0 ! & ,1"\$ (8.4*PQQ\T*] ,3.% - ,7*
^ ,3@" < ,3.2(*D' : .(%&#* = , -"74*PQQ_Y4*(62@*7" ,&.-. - /;% ; ; %&36-.3#* / , ; (* ,&"* ; "&- .2.%6(*0>7 , "((" - (*"3* ,704*
PQQ`T*H%&- "4*PQQ\T*] ,3.% - ,7* ^ ,3@" < ,3.2(*D' : .(%&#* = , -"74*PQQ_Y0*
H./@I

L ; ; % & 3 6 - . 3 . " (* K % & * 7 " , & - . - / * < , 3 @ * , & " * < , J . < . N " ' * \$ @ " - * 3 " 2 @ - % 7 % / # I F , (" ' * & " (% 6 & 2 " (* . - 2 7 6 ' " * 3 @ " * 3 @ & " " * 2 % < ; % - " - 3 (* ' " (2 & . F " ' * , 3 * 3 @ " * F " / . - - - / * % K * 3 @ . (* 2 @ , ; 3 " & * d * 2 % & " * * < , 3 @ * 2 % - 3 " - 3 4 * , * K % 2 6 (* % - * 2 @ . 7 ' & " - Z (* 3 @ . - 8 . - / * , - ' * 7 " , & - . - / 4 * , - ' * 3 " , 2 @ . - / * ; & , 2 3 . 2 " (* 3 @ , 3 * K % 7 7 % \$ * ' ' : " 7 % ; < " - 3 , 7 * ; & % / & " ((. % - (* , - ' * K % 2 6 (* % - * < , 3 @ * , (* , * ' . (2 . ; 7 . - " * , - ' * 2 @ . 7 ' & " - * , (* . - ' . : . ' 6 , 7 (* \$. 3 @ * 6 - . C 6 " * 2 6 7 3 6 & " (4 * K , < . 7 . " (4 * 2 @ , & , 2 3 " & . (3 . 2 (4 * , - ' * , F . 7 . 3 . " (0 * M " * , ' : % 2 , 3 " * K % & " - (6 & . - / * 3 @ " * . - 2 7 6 (. % - * % K * 3 @ " (" * " (" - 3 . , 7 * , (; " 2 3 (* \$. 3 @ . - * 3 " 2 @ - % 7 % / # I F , (" ' * & " (% 6 & 2 " (* 3 @ & % 6 / @ * (# (3 " < , 3 . 2 * & " (" , & 2 @ * , - ' * ' ' : " 7 % ; < " - 3 * ; & % 2 " ((" (4 * 2 % - (. ' & , 3 . % - * % K * ' . : " & (. 3 # * , - ' * . - 2 7 6 (. % - 4 * , - ' * F # * " - (6 & . - / * & " (% 6 & 2 " (* , & " * " C 6 . 3 , F 7 # * , 2 2 " ((. F 7 " * 3 % * , * F & % , ' * , 6 ' . - 2 " 0 *

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D-"J, <; 7"*.-*, *.KK"&"-3*' %< ,.-4*2% <; %(-./*, - '*! "2% <; %(-./*(@, ; "(4*\$, (/ "- "&, 3"' *K&% <*&" (" ,&2@*
K&% <*D6(3&, 7., *, - '*3@*"gGWG*3@, 3*\$, (*2% <F.- " '*3%*; &% :. ' "*, *K&, <" \$ %&8*K%&*2@.7' &"-Z(*7": "7(%K*3@.-8.- / *
0("">7" <"-3(4*M.7(%-4*"3*, 7G4*PQQXYG* >@.7' &"-.3., 77#*3&" , 3" '*(@, ; "(62@*, (*; , 33" &-*F7%28(*(" ; , &, 3"7#4*
3@-"*3@"#*2% <F.- " '*3@" <4*F63*" , 2@*(@, ; "\$ \$, (*, *(" ; , &, 3" *; , &3*%K* , *; .236&"G*+, 3" &4*3@"#*F" / , -*7, #. - / *(% <"*
(@, ; "((*("IF#I(.' "\$.3@*3&, 7*, - '*"&&%&4*3@"-*3@"#*, 7(%*(3, &3" '*&"2% / -.N.- / *, - '*; 7, --- / *3%*2% <F.- "*
(@, ; "(3%* <, 8"*%3@"&*(@, ; "(G*W36'." (*3@"-*(6; ; %&3" " " , 2@*7": "7*%K*3@.(* " : "7% ; <"-3, 7*; &% / &"((.%-*
0>7" <"-3(4*M.7(%-4*"3*, 7G4*PQQXYG*O@*"26&&"-3*2%-2" ; 36, 7.N, 3.%-*%K*3@*7" , &.- / *3&, 1"23%&." (*K%&* , &7#*
<, 3@" <, 3.2(*.-276' " (*PPP*7": "7(%K*3@.-8.- / *, 2&%((PQ*3% ; .2(G*? " (" , &2@*2%-3.-6" (*3%*(6; ; %&3*3@"*
&"K.- " <"-3*%K*3@"(" *3% ; .2(*, - '*7": "7(G

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O@*"3@.&' *; , &3*%K* , *7" , &.- / *3&, 1"23%&#*2% - (.3(*%K*("3(%K*3" , 2@.- / *; &, 23.2" (d"- : .&% - <"-3(4*
.-3"&, 2. .%-(4* , - '* , 23 : .)." (dK.-"I36-" '*K%&* , 2@*7": "7*%K*2@.7' &"-Z(*6- "'&(3, -' .- / *3%*@"7; *3@" <*F"2% <"*
; &%K.2. " -3*.-*3@, 3*7": "7*F"K%&"* <% :.- / *% - *3%*3@"*"- J3*7": "7*0>7" <"-3(*V*W, &, <, 4*PQPRYG*O@"*3" , 2@.- / *
; &, 23.2" (*, &"* " (./- " '*3%*@"7; *2@.7' &"-7" , &-*3@"*." , (*, - '*; &, 23.2" *3@"*(8.77(*

D((%2.,3.%-*K%&*i%6-/*>@.7'&"-*0]DBi>Y*, -*3@"*],3.%-,7*>%6-2.7%K*0",2@"&(*%K*^ ,3@"< ,3.2(*
0]>0 ^ YG*0@&%6/@*3@.(K"" 'F,284*(":"&,7*&"

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D(*;&":.%6(7#*' .(26((" '4*, -*. < ;%&3, -3*2% < ;% - "-3*K* @./@IC6,7.3#* < ,3@*.(*3",2@.- / * ;&,23.2" (*3@,3*
@%-%& **2@.7' &"-Z(*26736&"(4*K, <.7."(4*.- ' :.' 6,7*2@,&,23"&.(3.2(4*, (*\$ "77*, (*3@" .&* ; ,33"&-(*%K*3@.-8.- / *, - ' *
7", &.-. - / * 0 > , & ; "-3" & * " 3*, 7G4*PQRXT*A&#" * " 3*, 7G4*PQRaYg*O@.(* 2, - * F * * ; , & 3.267, & 7#*2@, 77" - / . - / * . - * 3@ " * 2% - 3" J3*%K*
3"2@-%7% / #4*, (*3@" (" * ; " & (% - , 7*2@, &, 23"&.(3.2(*, & " * < % (3* (" - (.3. : " 7#* & " (; % - ' " ' * 3% * . - * 3@ " * 2% - 3" J3*%K* ; " & (% - , 7*
&"7,3.% - (@. ; (G*E- * 3@.(* ("23.% - 4* \$ " * " (2&.F" * ; & % < . (. - / * & " (" , & 2@* , - ' * ' " : " 7% ; < " - 3* " KK% & 3 (*3% * , ' : % 2, 3" * K% & *
; 6&(6.- / * 3@ " (" * 2@, 77" - / " (*3% * ; & % : . ' " * < , 3@ * " J ; " & . " - 2" (*K% & * 3% ' , #Z(/ 7% F, 7*2.3.N" - (4*(.36, 3" ' * . - * (%2. , 7*
2% - 3" J3(. - * \$ @. 2@ * " ' 62, 3.% - * . (* , 3* 3@ " * K% & " K% & - 3* K * : , 76.- / * , - ' * F% 7(3" & . - / * , * < % & " * ; 76&, 7.(3.2* (%2. " 3#G* M" *
2% - - " 23* 3@. (*3% * - " \$ * K" , 36&" (*% - * [LT]².

O@ " * g - .3" ' * W3, 3" (*@, (*F" " - * " J ; " & . " - 2.- / * , * ' % 6F7" * ; , - ' " < .2*d* , * : .&6(*, 33, 28.- / * & " (; .&, 3% & # *
(#(3" < (*, - ' * , * / & % \$. - / * , \$, & " - " ((*%K*7% - / I(3, - ' . - / * - " C6.3. " (* . - * " ' 62, 3.% - , 7* & " (%6&2" (4" J, 2" & F, 3" ' * F#*
> L h E 9 I R S 4 * K % & * 5 7, 284* E - ' . / " - % 6(4* , - ' * ; " % ; 7" * % K * 2% 7% & * 0 5 E = L > Y * , - ' 2@.7' &" - * \$.3@* ' . (, F.7.3. " (G* ^ % (3*

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D*-\$*/,<"*-[LT]² LT, *-276'""*

;"";7""%K*2%7%&4*;"%;7""\$.3@*'.(,F.7.3."(4*,-'*\$%<"-0*0@""*/,<"*F"/.-(*\$.3@*,*(@,;"*;6NN7""*K%26(''-%<,32@.-/*%&*2%/-N.-/*(@,;"(0*M@-3@"";6NN7"".(2%<;7"3"4*3@""*F1"23*,-.<,3"(*3%&"":,7*,*2,&"K677#*2@%("-*;.236&"*d*(62@*,(*,*(;2""*(@6337"0@.(*(;2""*(@6337""*(3@"-*(@%\$-""J3*,*;"&(%-\$@%2%-3&.F63"'*3%*(;2""*3"2@-%7%/#4*(62@*,(*!"3@"&.-"p%@-(%-4*,-'*,*F&."K*F.%*(*&,"'0*B,2@*;"&(%-.*-3@.(*/,<"*\$,(*2@%("-*3%*;&%:. ""*,*%(.3.: ""*,-'*"<;%\$"&.-/*"J,<;7""*%K*(2."-3.(3(4*" -/.-""&(4*.-:"-3%&(4*,-'* <,3@"<,3.2.,-(*\$@%*,&"*,7(%*\$%<"-4*;"%;7""*%K*2%7%&4*%&*;"%;7""\$.3@*'.(,F.7.3."(0*0@("WOB ^@&%("*,&"* @./@7./@3" '*3%*"J;%("2@.7'&"-3%*,*': "&("":." \$*%K*\$@%*@(,*2%-3&.F63" '*3%*WOB ^*d*,-'*%6&*@%;"*.(3@,3* <,-#*2@.7'&"-(""*3@"<"7:"(*-*3@"("*/,<"(*,-'8-\$*3@,3*3@"#*2,-*,7(%*2@%("3%*F"2%<"*K636&"* (2."-3.(3(4*" -/.-""&(4*.-:"-3%&(4*,-'*<,3@"<,3.2.,-(0*E-276'./-/*/,<"(*7.8"*3@.(%-"*\$\$.3@.-*,*(#(3"<*F,('' %-*7",&.-/*3&,1"23%&."(*(*,;"2""*%K*3@""*:(.%-*K%&*,*K636&"*%K*@./@IC6,7.3#*<,3@*K%&*,77*2@.7'&"-0**

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0@.(2%<F.-,3.-%K*'./.3,7*,-'*;"&(%-,7*"J;"&."-2"(*\$.3@*,<,3@4*,',;3"'*3%*2@.7'&"-Z(*-""'(4*2,-*
F"*(6;;%&3"'*3@&%6/@*,',;3.:"/,<"(G*[,<"(*'":7%;<"-34*.-*,'.3.-%*3%*F".-/*K%26("'%*-7",&-./,*-'*
"-/,/"<"-34*2,-*,7(%*F"*'":7%;"'*K&%<*,*,<,(6&"<"-3*;"&("23.:4*;,&3.267,&7#*3@%(*\$.3@*"<F"' '* '*
,((("(<"-3%&*,',;3.:7":7.-/G*L-"*<"3@%'*K%&*3@.(.*'":7%;.-/*,*3,F7"*K*(;"2.K.2,3.-%*K*3@*2%-3"-3*
%&*2%/-.3.:":*;&%2"(((*%K*.-3"&"(34*3#;"(*%K*.3"<(*3@,3*\$%67'*,22"(*3@,3*;&%2"((%&*8-%\$7''/'4*,-'*3@**
-6<F"&*%K*.3"<(*-""' '*3%*/"-&,3"*.-K%&<,3.-%,*F%63*3@,3*8-%\$7''/'*0D<"&.2,-*B'62,3.-%,7*?"(",&2@*
D((%2.,3.-%4*PQRXYG*L3@"&*<"3@%'(*.-276'"*3"(3.-/*/,<"(*\$.3@*2@.7'&"-*,(*'"(2&.F"'*;&":.%6(7#*.-*3@.(
2@,;3"&*d*2%<;,&.-/*2@.7'&"-Z(*;&%/&"((%*-*/,<"(*\$.3@*3@".&*;&%/&"((%*-%-I'/.3,7*,((("<"-3*3,(8(G*
LF("&:,3.-%(*\$.3@*3@.-8I,7%6'(*,&"*K&"C6"-37#*6("'-*6(,F.7.3#*3"(3.-/*%K*\$"F(.3"(*d*,*(.<.7,&*<"3@%'*,&"*
2%/-.3.:":*.Tm&8-1(.)-&:(*)-(,*)-1ITf[:":*,*(*)-1('":(.)-%-3)-1-1(4)-1-/*%K,*,**

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(#(3" <,3.2*&"(",&2@4*(62@*,(*3@**:@,("(*%K*3@"*>?A0@0@("";&%2"((("*(- (6&"*3@,3*;&% '623(*,&"*6(F7"*,- '*

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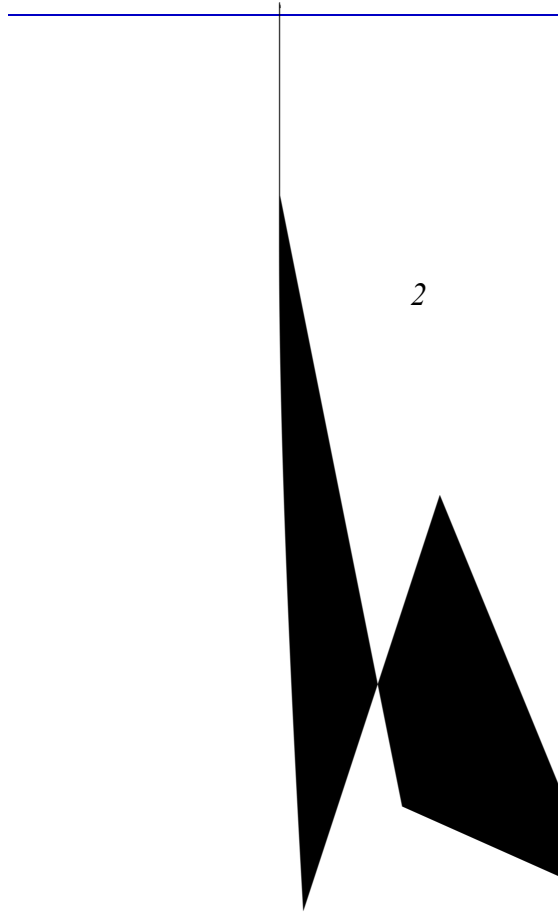
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