

"SCPUFSSPSJTN %PVCUGVM %FMVTJPO PS %FI

0DFNHQ]LH / .ZDN

'HSDUWPHQW RI (FRQRPLF 'HYHORSPHQW -REV 7UDQVSRUW DQG 5HVRXUFHV \$XVWUDOLD  
&RUUHVSQRQGLQJ DXWKRU 0DFNHQ]LH / .ZDN 'HSDUWPHQW RI (FRQRPLF 'HYHORSPHQW -REV 7UDQVSRU  
7HO ( PDLO PDFNHQ]LHNZDN#JPDLO FRP

5HFHLYHG 2GFDWRIE HU \$FFHISFWHPPCE HQDWBXEOLVKHG GDWH 'HFHPEHU  
&RS\ULJKW .ZDN / 0 7KLV LV DQ RSHQ DFFHVV DUWLFOH GLVWULEXWHG XQGHU WKH WHUPV RI WKH &UH  
GLVWULEXWLRQ DQG UHSURGXFWLRQ LQ DQ\ PHGLXP SURYLGHG WKH RULJLQDO DXWKRU DQG VRXUFH DU

\$EVWUDFW

\$UERWHUURULVP WKH ZHDSRQLVDWLRQ DQG XVH RI DUWKURSRG YHFWRUV FD  
SRVVLELOLW\ LQ DQ DJH RI UDSLGO\ DFFHOHUDWLQJ ELRORJ\ +LVWRULFDOO\ DUE  
SUREDELOLW\ RI VXFK DWDFNV RFFXUULQJ KDV EHHQ XQFOHDU )RU WKH ILUVW  
DORQJ ZLWK SRWHQWLDO YHFWRUV DQG SDWKRJHQV \$ QRYHO ELRGHIHQFH VWUDW



DQG WKH 6)76 YLH XSU RWR ] R@D @ DUEHDVHQD  
HLOHWDQFH DOVR VSUHDG E\ WLFNV DQG DUH RI JUHDW FRQFHUQ > @ \$  
QXPEHU RI WLFN VSHFLHV DUH DOVR NQRZQ WR FDXVH WR[LFRVHV DQG SDUDO\V  
LQ KXPDVQ GXULQJ IHHGLQJ > @ 6XFK VSHFLHV PD\ EH XVHG GLUHFQ\ DV  
DUEZHDSRQV ZLWKRXW WKH QHHG IRU DQ DFFRPQDQ\LQJ SDWKRJHQ

\$Q DWWDFN XWLOL]LQJ WLFNV ZRXOG PRVW OLNHO\ IROORZ D VLPLDU SDWWH  
WR D GLUHFW DWWDFN GLVFXVVHG SUHYLRXVO\ LQ ZKLFK LQIHFWRXV WLFNV ZR  
EH UHOHDVHG LQWR D UHVWULFWHG DUHD VXFK DV D WUDLQ EXV RU VWDGLXP  
ZKLFK PDQ\ SFRQQHGLQJ GLUHFW DWWDFN LV DOVR SRVVLEOH  
DOWKRXJK WKH VORZ OLIH F\FOH RI PDQ\ WLFN VSHFLHV PHDQV WKDW VXFK DQ  
DWWDFN PD\ WDNH PDQVH FDQH QERWIRBHG DQG LV  
WKHUHIRUH XQOLNHO\LHSWRQQLWIKRIQFDMDHYRRXULQJ DQ  
DUEWHUURULVP DWWDFN XVLQJ WLFNV ZRXOG EH PRVW OLNHO\ WR RFFXU GXUL  
KXPLG ZHDWKHU GXULQJ ZKLFK WLRLWY FRXOG VXUYLYH ORQJHU SHULRGV  
KRVW ZLWKRXW GHVLFWDWLQJ

)OHDV DV \$UERZHDSRQV

:KLOHHDQGD ERQJLQHHDVHV DUH RI OHVV SXEOLF KHDOWK  
LPSRUWDQFH WRGD\ WKDQ WKH\ KDYH EHHQ KLVWRULFDOO\ WKH\ VWLOO KDYH  
FRQVLGHUDEOH SRWHQWLDO DV DUEZHDSRQV )OHDV DUH PRVW LQIDPRXV IRU W  
VSUHDG RI SODJXH FDXVH\ VSDQH\ EDQH EDFWHULXP  
+RZHYHU WKSHL FENDH\ VSDQH\ EDQH DDFVR RI PHGLFDO  
LPSRUWDQFH > @ \$OHDV DQH\ EDQH DDFVR RI PHGLFDO

## 5HIHUFQFHV

/RFNZRRG -\$ 6L[ OHJJHG VROGLHUV XVLQJ LQVHFV DV ZHDSRQV RI ZDU  
2[IRUG 8QLYHUVLW\ 3UHVV 1HZ <RUN  
1LH-% 6HOGHQH10R\$DQ -DSDQ V ZDUWLPH PHGLFDO  
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5HLQKDUGW H (QWRPRORJLFDO ;QVHMO\W\KH RI WKH  
HYLGHQHORJLFDO ZDUIDUH UHVHDFK LQ WKH WKLUG 5HLFK  
(QGHDIYRXU  
\*HLVVOMDQ &RXUWODQG ORRQ -( %LRORJLFDO DQG WR[LQ ZHDSRQV  
UHVHDFK GHYHORSPHQW DQG XVH IURP WKH PLGGOH DJHV WR 2[IRUG  
8QLYHUVLW\ 3UHVV 1HZ <RUN  
+D\\$ PDJLF VZRUG RU D ELJ LWFK DQ KLVWRULFDO ORRN DW WKH 8QLWHG  
6WDWHV ELRORJLFDO ZBQQRQVYSVRJUDPPH OHG  
1L[GRUv %LRORJLFDO ZHDSRQV FRQYHQWLRQ 9HULI\LQJ WUHDW\  
FRPSOLDQFH %HUOLQ DQG +HLGHOEHUJ 6SULQJHU SS  
7DEDFK:QLFDUYH\ :5 %HFQHO -- &ODUN \*\* &RQQHOO\ &5 HW DO