

Letter to the Editor

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From: uunet!frith!frith.egr.msu.edu!lees (John Lees)

To the Editorial Staff of *Computing Systems*:

Regarding *USENIX Computing Systems*, Volume 2 Number 2, Spring 1989, which contains the articles:

“Experience with Viruses on UNIX Systems,” by Tom Duff

“Virology 101,” by M. Douglas McIlroy

in which the authors discuss the nature of computer “viruses” and give numerous simple examples of code that should work on just about any UNIX system.

Are you people crazy?

Your editorial justifies publishing these articles by comparing information about viruses to information about murder. I think *you* need to retake Rhetoric 101.

We have over one thousand student accounts on the UNIX systems in this building, and the number is increasing daily. If I see an engineering student reading a murder mystery, I do not quake with fear at thought of all the murder weapons easily at hand in this building. But if I see engineering students reading your articles on simple viruses you can type in between class periods, I am going to quake at the thought that I do not have the staff resources to cope with any more security problems than I already have!

The average person does *not* morally and legally equate committing murder with trying to mess up the college computing systems. Perhaps this is true of professional engineers and computer scientists (I hope so), but they represent a small fraction of the

day-to-day users of computers. It appears not to have been true of RTM, if he did what he is accused of doing.

Certainly you are free to publish what you like, but I believe you were less than responsible in publishing these two articles as they stand. If these particular viruses and suggestions for wrecking havoc show up on my systems, perhaps I'll send you a bill for the staff time needed to clean up afterwards.

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From the Editor:

I can certainly sympathize with your reaction to the virus articles as I, too, have been manager of a system populated by several thousand inquisitive and creative undergraduates. We thought a very long time about publishing the papers and believe there are several reasons to do so.

The first is that on one level, the "critical knowledge" had already been disclosed in other venues, and that it is now a question of the value of knowledge versus the risk of possessing that knowledge. The Duff paper had already appeared in another form in the Proceedings of the Winter USENIX meeting in San Diego, and while expanded from that version, the essential idea had already appeared elsewhere. From Duff's paper, the intellectual jump to the code in McIlroy's paper isn't terribly large. Indeed, this is precisely why his results are so disturbing. Finally, the *Communications of the ACM* has just published several in-depth, quite detailed analyses of the Internet Worm which are quite sufficient to reimplement it. Therefore, I concluded that others have also made the tough decision that the value of the knowledge is worth the intrinsic risk.

Second, I believe there is a crucially important result in McIlroy's paper: viruses are an inherent part of the computing landscape, arising directly from the model of stored programs and are therefore unavoidable by simple suppression. This is an

important result for people trying to achieve security since knowing fundamental weaknesses is important, as well as for those content to wish that "It won't happen here."

Third, I think it very important that people understand the result above and come to grips with the fact that we do have moral and ethical responsibilities. While you may not have liked the murder analogy (there are those who sent mail saying they thought it was exactly right), what about information learned from a chemistry course? Certainly after two or three courses in chemistry one knows quite a bit about making noxious agents ranging from powerful explosives to poisonous gases. I claim the nature of the information imparted in these papers is no different; it is the use of the knowledge which matters.

I do, however, agree with you that some people seem to believe there is a qualitative difference between wrecking a chemistry lab and wrecking a computer lab and that this is the crux of your letter. I do not understand why, however, steps to dissuade people from this belief do not seem to be taken more often; for example, by having the moral and ethical issues (and the certain consequences of their violation), explained to students in stark, black-and-white terms early on in their exposure to computers. If the problem, however, is that such people are largely amoral, then I don't see any solution to a great many dreadful problems, this being but one.

Along these lines, the USENIX Board of Directors is working to organize a panel discussion on ethics at the Washington, D.C. 1990 Winter USENIX Conference. I hope you'll attend and share your views.

Thank you for your frank comments. This is an important subject which deserves frank discussion.

Michael D. O'Dell