

## Ken Follett

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**From:** Bernard Green [Syemon.Es@btinternet.com]  
**Sent:** 10 November 2000 00:33  
**To:** kenprivate@ken-follett.com  
**Subject:** Re: Ken Follett

Mr Follett

Quite a surprise to be mailing to you, a pleasant one. This is a quick reply. I will fill in a bit more later after a few replies have come in. Naturally anything you tell me about the plot remains confidential and my questions are posed as if for my personal interest.

| 1. The BUILDING attacked must be large, because I have six | characters who enter disguised as cleaners. But the telephone system | does not need to occupy the whole building. It can be quite | small--provided it is important.

| 2. There will be no civilian deaths. The saboteurs can | carry only small amounts of explosive. Their object is to destroy the | telephone equipment, not the building. One of them is a telephone | engineer who determines exactly where to place a small quantity of | explosive to do maximum damage. I may also have all civilians evacuated | from the building at the last minute.

+++ Small charges placed against the glass containers of the exchange batteries would remove the power supply and, with a bit of luck, allow the acid released to run into the main cable ducts. Several charges to break as many containers as possible. The battery would almost certainly be 48 volt meaning 24 cells ( containers ) of 2 volts each. Breaking glass with liquid behind is I believe difficult and may need some shaped charges.

Some exchanges had two batteries, one on charge and one in use so take out both. Batteries were used as they provided "clean" direct current. Mains power supplies have a ripple which can be heard as a hum on telephones. Some used a single battery with a charger connected , the battery absorbing almost all of the ripple.

| 3. I realize that the Germans would be able to communicate | by radio if the phone system were out of action. That's part of the | object of the exercise. Radio messages were intercepted by the Allies

| and decoded at Bletchley. Telephone and teleprinter messages  
could not  
| be intercepted. We wanted to force them to switch to radio.

++++ Ah you have read your history books, remember that often a  
known  
phrase was needed to help speed the finding of the day's code.  
Perhaps  
a second attack on a well known site or building to ensure that  
the name  
was passed by radio in a report.

| 4. I realise there was in fact no large telephone  
| installation in the Reims area. That's intentional. The  
building  
| attacked in my story is a fictional building. However, I need  
to satisfy  
| myself that there MIGHT have been such an installation in that  
| neighbourhood. See queries below.

| 5. I realise that telephone sabotage can be  
repaired. This  
| attack takes place a day or two before D-Day. Its purpose will  
be  
| accomplished if the phone system is inoperable for a few days.  
Damage  
| that can be repaired within, say, two weeks, would be ideal  
(because, as  
| SS points out, the Allies will want to use the phones when they  
have  
| retaken France). But cutting cables is insufficient. As several  
of our  
| correspondents note, cut cables can be repaired in hours.

++++ The retreating Germans did a great deal of damage to  
installations  
They ripped up railways with train with a plough behind a  
powerfull loco and  
did destroy communication lines.

| 6. The largest problem raised by all  
correspondents is that  
| no single telephone installation is so central to the system  
that its  
| destruction would prevent communications between Berlin and  
northern  
| France. Several approaches to a solution are suggested by  
various  
| correspondents, and I'd like comments from SS and anyone else  
on the  
| following:  
| a. Bernard Green says "There were at least  
three  
| routes over land for switched telephones from major towns in  
France to  
| Berlin". If there were only three or four, I could have a  
scenario in  
| which all but one have already been destroyed, say by bombing,  
so that  
| the remaining one is essential in the way I require for the  
plot. But BG  
| also says the Germans used direct land lines for both speech  
and  
| telegrams. But surely teleprinter messages passed through  
exchanges?  
| If not, did they pass through amplification stations?

+++One type of Fernschreiber ( teleprinter ) was for use on direct lines.  
It did need repeater stations for very long distances but these could be mobile units or small cabinets. They too needed power but at 80 volts and not as well smoothed as the 24 volts for telephones. Therefore they could be operated from the mains without the need for large batteries.

| And could such stations be located in a regular telephone exchange?

+++ Yes

| The Laxou material mentions a "transit exchange"--what's that?  
+++ Transit is probably what the UK call a tandem. It acts as an exchange to link other exchanges that don't have direct links between them. ie Stevenage to Bedford may not have enough traffic to warrant a direct set of cables so if a caller in Stevenage asked the operator for a Bedford number she would contact Luton tandem and ask that operator to connect her to the Bedford operator who would then connect the call to the called party.

| b. I'm confused about whether the Germans did or did not have their own military phone system in France separate from the French civilian system. The translated material about the Laxou blockhouse suggest they repaired and used an existing French military telephone exchange. If there was a separate military system, might it be easier to disrupt than the French civilian system?

+++ I believe they did have a separate system from the civilian but do not know whether it was new or a take over of the French military. The French military was radial from Paris, the Germans would have required linear across France from the German border.

| c. I'm very interested in the Reichsbahn's PBX.  
| Even tanks were transported by rail, on special bogies. What is a main switching node? Might it be located in the same building as a regular telephone exchange? How would its destruction affect trains? Could the saboteurs ensure that the damage would take at least a week or two to repair?  
++++ I have no knowledge of the railway phone system.

| d. I'm also unclear about what an automatic exchange is. The French government report says the Resistance attacked

| 26 out of 211 automatic exchanges and 67 out of 222 ". I presume a manual multiplier consists of switchboard | girls plugging leads into sockets. If our exchange were automatic, who | would work there? Could it be partly automatic?

++++"Automatic" is local calls are dialled and some nearby villages and towns could be dialled. However there would have to be a manual operator for connecting calls that couldn't be self dialled. The operator may be in the exchange or in it's "parent" exchange. Parent would be a town or city exchange and it's children would be small exchanges in villages and small towns that were connected to it, It would be the transit or tandem for those exchanges. Staff at a manual would be switchboard operators, maintainance technicians, supervisors and admin clerks for billing etc.

++++"manual| multipliers" are I am certain operated by Hello Girls with plugs and sockets

| e. SS says the Germans decided, in the thirties, | not to instal direct-dial systems in Germany, on the grounds that manual | operators would be better at re-routing when lines were busy, AND | because a direct-dial system would be easier to disrupt. ++++ Also a direct dial system would be harder to monitor by the secret police

| But we know | that the French phone system was partly converted to automatic | exchanges. Maybe a partial destruction of the system would serve my | purpose. And wouldn't teleprinter messages normally go through automatic | exchanges? It's hard to imagine how they would work through a manual | exchange.

++++From what I can remember the main lines of teleprinter command were direct fixed lines but the exact method escapes me.

Further comment.

The flour attack would not be a good idea if the exchange is to be re-used in a few weeks as the effects are long lasting.

I will dig out an old friend from my time in Germany and get his input for you. He was mostly into radio communications but should have some contacts.

I see | that BG lives less than an hour from my home in Stevenage, so if we

| continue to exchange ideas no doubt we will talk on the phone  
or meet in  
| person.

My address is

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Kennell Hill  
Sharnbrook  
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Phone and Fax 01 234 782 203

Best Regards

Bernard