

VOLUME 17

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IN THE UNITED STATES DISTRICT COURT  
FOR THE NORTHERN DISTRICT OF CALIFORNIA

BEFORE: THE HONORABLE WILLIAM H. ORRICK, JUDGE

IN RE

DATA GENERAL CORPORATION  
ANTITRUST LITIGATION

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}  
} MDL DOCKET NO. 369 WHO  
}  
}

REPORTERS' TRANSCRIPT

TUESDAY, APRIL 21, 1981

REPORTED BY:

CARL R. PLINE  
RAYMOND LINKERMAN  
BETTY A. RAY

FRICAD-Byronia, N. J.  
GOVERNMENT  
EXHIBIT  
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RICHARD LEE SCHMALENSEE,

      CALLED AS A WITNESS ON BEHALF OF THE PLAINTIFFS, HAVING  
      BEEN FIRST DULY SWORN, WAS EXAMINED AND TESTIFIED AS  
      FOLLOWS:

1           PROCESSING UNITS.

2                     LET ME EXPLAIN, NOW, HOW I ARRIVED AT THAT  
3 CONCLUSION. AND I WOULD ... FOLLOW THE OUTLINE, MORE  
4 OR LESS, THAT'S BEFORE YOU NOW.

5                     I WANT TO TALK FIRST ABOUT ECONOMIC POWER  
6 AND ITS SOURCES, TO JUST DISCUSS SOME ECONOMIC  
7 CONCEPTS THAT I'LL BE APPLYING TO THE FACTS OF THIS  
8 CASE A BIT LATER.

9                     WHEN AN ECONOMIST THINKS ABOUT THE "POWER"  
10 OF A PARTICULAR FIRM, HE OR SHE ASKS: DOES THE FIRM  
11 HAVE THE POWER TO RAISE PRICES SIGNIFICANTLY ABOVE COST  
12 WITHOUT SUFFERING AN UNACCEPTABLE LOSS OF SALES VOLUME?

13                    IF THE ANSWER IS "YES," THEN THE FIRM HAS  
14 "POWER," SOMETIMES CALLED "ECONOMIC POWER," OR "POWER  
15 OVER PRICE."

16                    YOU MUST REALIZE, PARENTHETICALLY, BY "PRICE,"  
17 AN ECONOMIST MEANS DOLLARS PAID, CREDIT TERMS, DELIVERY  
18 TERMS, WARRANTIES. EVERYTHING THAT AFFECTS THE NET  
19 VALUE TO THE CUSTOMER. "POWER OVER PRICE," AS I USE  
20 THE TERM, THUS INCLUDES THE POWER TO IMPOSE A TIE,  
21 OR OTHER BURDENSOME TERMS, IN LIEU OF CHARGING A HIGH  
22 DOLLAR PRICE, IF YOU WILL.

23                    IN A PERFECTLY COMPETITIVE ENVIRONMENT,  
24 SELLERS IN THE MARKETPLACE ARE WHAT ECONOMISTS REFER  
25 TO AS "PRICE TAKERS"; THAT IS, THEY ARE REQUIRED, AS

1 MORE GENERAL INSULATION FROM COMPETITION IS PRESENT.

2 PROTECTION AGAINST COMPETITION IN THE FORM  
3 OF DUPLICATION CAN BE OBTAINED THROUGH THE ASSERTION  
4 AND ENFORCEMENT OF RIGHTS AVAILABLE UNDER COPYRIGHT  
5 OR TRADE SECRET LAWS. THE OWNER OF THE "STAR WARS"  
6 MOVIE, FOR EXAMPLE, MAY ENJOY, IN PART BY VIRTUE OF  
7 HIS COPYRIGHT TO THE FILM, CONSIDERABLE LEEWAY TO  
8 CHARGE MORE FOR HIS PRODUCT OR TO IMPOSE SOME OTHER  
9 CONDITIONS ON THOSE WHO WANT TO LICENSE THE MOVIE  
10 TO SHOW IN THEIR THEATERS. THE COPYRIGHT OWNER OF  
11 A HIT RECORD MAY ENJOY THE SAME KIND OF ECONOMIC  
12 POWER, ON THE ONE HAND BECAUSE HIS RECORD IS IN  
13 DEMAND, AND ON THE OTHER HAND BECAUSE IT CANNOT BE  
14 DUPLICATED WITHOUT VIOLATING THE OWNER'S RIGHTS. THE  
15 OWNER OF A FORMULA FOR A MEDICINE NEEDED OR DESIRED  
16 BY AN APPRECIABLE NUMBER OF CUSTOMERS, AND THAT NO  
17 ONE CAN DUPLICATE WITHOUT RISKING A TRADE SECRET  
18 SUIT, MAY ENJOY EVEN MORE ECONOMIC POWER.

19 COMPLEX TECHNOLOGY MAY PROVIDE COMPARABLE  
20 INSULATION FROM COMPETITORS AND THUS PRESERVE  
21 SIGNIFICANT ECONOMIC POWER. DUPLICATION OF A PRODUCT  
22 IN HIGH DEMAND MAY BE SO TECHNICALLY DIFFICULT THAT  
23 IT CAN'T BE DONE. OR SUCH DUPLICATION MAY BE SO  
24 EXPENSIVE AS TO BE ECONOMICALLY IMPRACTICAL. THAT  
25 KIND OF BARRIER MAY PROVIDE SUBSTANTIAL ECONOMIC POWER.

1           IN SHORT, IN ECONOMIC TERMS, DATA GENERAL HAD THE  
2           BENEFIT OF THE PRODUCT DIFFERENTIATION.

3                       THE INVESTMENT BY CUSTOMERS IN APPLICATION  
4           SOFTWARE WRITTEN TO RUN WITH DATA GENERAL SYSTEMS GREW  
5           ENORMOUSLY, AS DATA GENERAL COMPUTERS WERE UTILIZED  
6           BY MANY CUSTOMERS FOR A CONTINUOUSLY EXPANDED VARIETY  
7           OF TASKS. AS MORE AND MORE CUSTOMERS BECAME COMMITTED  
8           TO THE USE OF DATA GENERAL SYSTEM SOFTWARE, THE LOCK-IN  
9           PHENOMENON BECAME MORE IMPORTANT. LOCK-IN GAVE DATA  
10          GENERAL AN ADVANTAGE OVER OTHERS IN OBTAINING THE  
11          REPEAT BUSINESS OF THOSE CUSTOMERS WHO HAD WRITTEN  
12          APPLICATION PROGRAMS TO RUN WITH DATA GENERAL'S SYSTEM  
13          SOFTWARE.

14                      LET ME TURN NOW EXPLICITLY TO THE ISSUE OF  
15          SOFTWARE LOCK-IN, AS INDICATED ON THE OUTLINE, AND  
16          DISCUSS HOW THIS PHENOMENON OPERATES IN ECONOMIC RATHER  
17          THAN TECHNICAL TERMS.

18                      IT IS MY UNDERSTANDING THAT FOR A LARGE  
19          NUMBER OF DATA GENERAL CUSTOMERS, THE PROSPECT OF  
20          CONVERTING THEIR APPLICATIONS PROGRAMS WRITTEN TO RUN  
21          WITH THE DATA GENERAL OPERATING SYSTEM TO RUN WITH  
22          ANY OTHER OPERATING SYSTEM CARRIES WITH IT SUFFICIENT  
23          EXPENSE, INCONVENIENCE AND RISK OF DELAY OR FAILURE  
24          THAT THESE CUSTOMERS DO NOT CONSIDER CONVERSION TO  
25          BE A PRACTICAL COMMERCIAL ALTERNATIVE TO STAYING WITH

1 DATA GENERAL OPERATING SYSTEMS. THESE ARE THE CUSTOMERS  
2 REFERRED TO AS THE COMMITTED OR LOCKED-IN CUSTOMERS.  
3 HERE I'M RELYING ON THE EXPERTS AND DATA GENERAL  
4 CUSTOMERS WHO HAVE TESTIFIED THAT THE RISKS AND  
5 DIFFICULTIES OF CONVERSION ARE OFTEN HORRENDOUS AND  
6 ARE TO BE AVOIDED WHENEVER POSSIBLE. MY EXTENSIVE  
7 REVIEW OF THIS TESTIMONY AND OTHER MATERIALS IN THE  
8 CASE CONVINCES ME THAT THIS LOCK-IN PHENOMENON PLACES  
9 VERY REAL AND VERY IMPORTANT ECONOMIC CONSTRAINTS ON  
10 THE FREEDOM OF ACTION OF LOCKED-IN CUSTOMERS.

11 AN ANALOGY WHICH I FIND HELPFUL, AT LEAST,  
12 IN UNDERSTANDING THE ECONOMIC EFFECT OF THE LOCK-IN  
13 PHENOMENON IS THAT OF A LOCK ON YOUR FRONT DOOR. THE  
14 LOCK ON YOUR FRONT DOOR PERFORMS THE FUNCTION OF  
15 LIMITING ACCESS TO YOUR HOME, BUT IT CANNOT PERFORM  
16 THAT FUNCTION WITHOUT A KEY THAT MESHES WITH IT  
17 EXACTLY. SIMILARLY, APPLICATION SOFTWARE CANNOT  
18 PERFORM ITS FUNCTION UNLESS IT IS USED WITH OPERATING  
19 SYSTEM SOFTWARE THAT FITS IT EXACTLY. THERE MAY BE  
20 MANY LOCKS WITH MATCHING KEYS THAT CAN BE USED TO  
21 PROVIDE SECURITY. BUT ONCE A PARTICULAR LOCK IS  
22 INSTALLED IN YOUR FRONT DOOR, BEING DEPRIVED OF THE  
23 PARTICULAR KEY TO THAT LOCK CAUSES GREAT INCONVENIENCE  
24 AND MAY RENDER THE LOCK ALMOST VALUELESS. THERE ARE  
25 MANY LOCKS WITH MATCHING KEYS THAT FULFILL THE SAME

1           IN THAT SITUATION, DATA GENERAL WILL NOT GET ALL THE  
2           BUSINESS, BUT AS YOU HAVE HEARD FROM SEVERAL CUSTOMERS,  
3           THERE ARE A NUMBER OF JOBS TO WHICH DATA GENERAL'S  
4           RDOS OPERATING SYSTEM IS CONSIDERED PARTICULARLY WELL  
5           SUITED, AND MANY CUSTOMERS WILL CHOOSE TO PURCHASE FROM  
6           DATA GENERAL FOR THAT REASON. AND IN ECONOMIC TERMS,  
7           DATA GENERAL WOULD ENJOY SOME ADVANTAGE OVER COMPETITORS  
8           IN MAKING THE FIRST OIL FIELD CONTROL SALE MERELY  
9           BECAUSE OF THE DISTINCTIVE CAPABILITIES OF ITS  
10          OPERATING SYSTEM SOFTWARE.

11                       NOW, LET'S LOOK BACK AT THE SAME CUSTOMER,  
12          ASSUMING THAT HE'S PURCHASED FROM DATA GENERAL, A YEAR  
13          LATER. AFTER THE CUSTOMER HAS INVESTED A GREAT DEAL  
14          OF TIME, EFFORT AND MONEY IN DEVELOPING COMPLEX  
15          APPLICATION SOFTWARE, WRITTEN TO RUN WITH DATA GENERAL'S  
16          OPERATING SYSTEM, AND CREATED AN ENTIRE OIL FIELD  
17          CONTROL SYSTEM, DATA GENERAL'S ADVANTAGE OVER ITS  
18          RIVALS FOR ADDITIONAL SALES TO THAT CUSTOMER BECOMES  
19          MUCH MORE DRAMATIC.

20                       SUPPOSE THAT THE CUSTOMER WANTS TO ADD AN  
21          EXTENSION TO THE OIL FIELD CONTROL SYSTEM HE HAS  
22          INSTALLED IN THE FIELD. OR SUPPOSE THAT THE CUSTOMER  
23          HAS A NEW JOB TO INSTALL A NEW OIL FIELD CONTROL  
24          SYSTEM IN AN ENTIRELY DIFFERENT LOCATION. IN EITHER  
25          CASE, THERE ARE NO LONGER ANY VIABLE ALTERNATIVES TO

1 DATA GENERAL'S SOFTWARE. BECAUSE OF THE LOCK-IN  
2 PHENOMENON, NO DOUBT IN THAT SITUATION DATA GENERAL  
3 COULD CHARGE A PREMIUM FOR THE LICENSING OF ITS  
4 OPERATING SYSTEM SOFTWARE, ILLUSTRATING ITS POWER  
5 OVER PRICE, NARROWLY DEFINED. OR IT COULD IMPOSE  
6 SOME OTHER BURDEN ON THE CUSTOMER IN LIEU OF A  
7 PREMIUM PRICE.

8 HOWEVER, UNLESS DATA GENERAL DOES LICENSE  
9 ITS OPERATING SYSTEM SOFTWARE FOR USE WITH NON-DATA  
10 GENERAL CPU'S IN THAT SITUATION, COMPETITION AMONG  
11 CPU VENDORS IS TO A SIGNIFICANT DEGREE DAMPENED OR  
12 INHIBITED. THIS OCCURS BECAUSE OF THE ADDITIONAL  
13 TIME, RISK AND COST WHICH THE CUSTOMER WOULD HAVE TO  
14 INCUR EITHER TO WRITE NEW APPLICATIONS PROGRAMS TO  
15 RUN WITH THE NEW OPERATING SYSTEM OR TO CONVERT HIS  
16 OLD APPLICATIONS PROGRAM TO RUN WITH THE NEW  
17 OPERATING SYSTEM, ASSUMING THAT WERE POSSIBLE.

18 {CONTINUED ON NEXT PAGE.}

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