Cincom
TOTAL

TOTAL

TOTAL: Data Base Management System

The most successful and widely used system in the world, easy to use yet sophisticated and powerful, allows fast development of batch or On-line application systems.

## TOTAL: Data Base Information Retrieval Language (SOCRATES)

The Data Base extraction and reporting system which makes it possible for you to exploit the full potential of your TOTAL Data Base — so that you get the full benefit from the most valuable resource your organization has — information.

TOTAL: Data Base Data Communications (ENVIRON/1)

The integrated On-line Control System. From the initial need for On-line enquiry to a large and complex real time network — more power with fewer resources. Recovery and restart facilities second to none are complemented by a unique On-line Compiler which makes On-line programming as easy as batch.

TOTAL: Data Base Administration Facilities

The integrated Data Dictionary and Utility programs provide a complete tool for the control of system development and the Data Base Administration function — the data base of the data base.
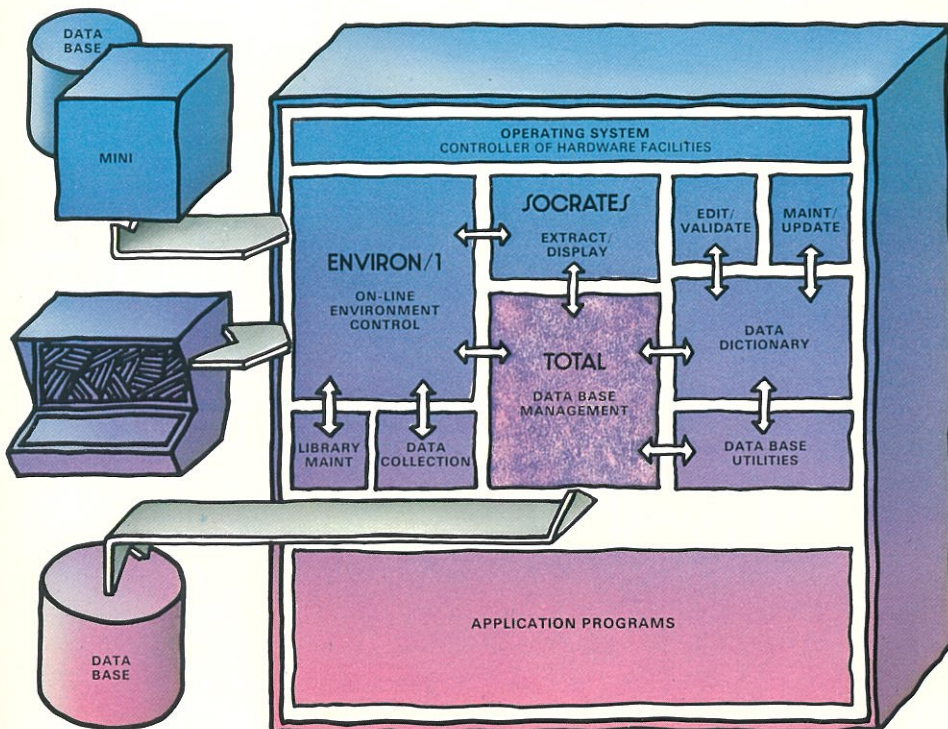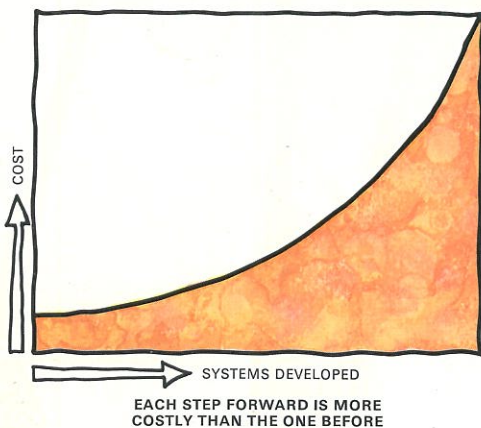
What is
a data base management system?

The term Data Base is not a new one

Data Bases have always existed in your organization, in filing cabinets and index files. With the introduction of Electronic Data Processing, these Data Bases were converted into computer files.

These files were created within functional or departmental boundaries as each application was mechanized. There was nothing wrong with this approach; it was the only way that the technology permitted. But some very significant problems were created along the way.

We have increasing difficulty in integrating each new system with those already built. This results in a curve effect where each step forward takes longer than the one before.

We became more and more inflexible and unresponsive to the changes occurring in a dynamic business and technological environment.

'We are now entering an era in which companies with first rate information systems will run their competitors right out of the market place.'

It is now a recognized fact that information has a definite value. Accurate and timely information is the basis for decision making at all levels of your organization. Late or inaccurate information leads to bad decisions and the resulting financial implications to your company can be staggering.

Two new truths are now accepted by decision-makers. **The value of information decreases with the time taken to provide it.**

The data on which information is based is possibly the most valuable resource you have.

Data is a Resource...
...Data Base is resource management

Your production director is accustomed to managing the capital equipment, personnel and production resources of your company. Your financial director is responsible for the management of the cash and investment *resources* of *your company.*

In the same way we in data processing should be employing the techniques of a DBMS to manage our company's data resources.

The question is no longer what happens if you have a Data Base, but what happens if you don't.

THE VALUE OF INFORMATION INCREASES
AS THE TIME TO OBTAIN IT DECREASES

EACH STEP FORWARD IS MORE
COSTLY THAN THE ONE BEFORE
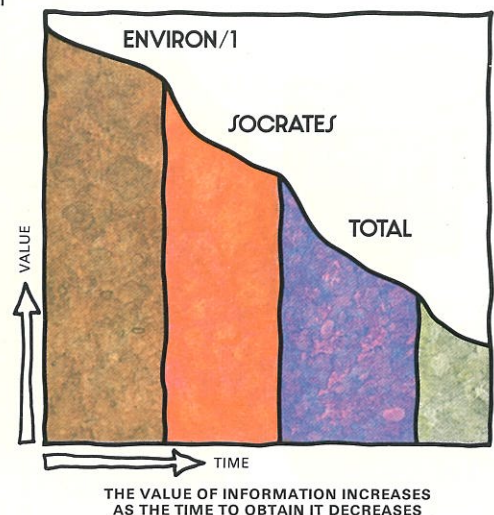
What does it mean to general management?

TOTAL drastically improves your implementation schedules

TOTAL eliminates much of the data processing effort that previously has not been directly productive. That means more of your resources can be allocated to building application systems. TOTAL also eliminates the need for detailed long term planning previously necessary to achieve successful integration of information systems. Together, these two items can contribute to a threefold increase in your development capability.

TOTAL gives you better systems

Successful computer systems nearly always involve users during the design stage. TOTAL will help your user departments to understand their data and therefore contribute actively to systems design. Now your systems will be as the users want them — first time around.

TOTAL helps you cater for change

Although you cannot predict the changes your company will demand, you can predict there *will* be change ! TOTAL will enable Data Processing to absorb change more readily and thereby react quickly to your business needs.

TOTAL makes you more competitive

Now you can apply data processing techniques to areas of your organization previously considered too dynamic or too complex. You will be more able to cater for new markets . . . new manufacturing and marketing strategies . . . knowing that Data Processing has the power and flexibility to respond to those new demands. You will be better equipped than your competitors.

TOTAL means higher profits

By itself TOTAL can make significant savings in Data Processing costs. But even greater financial benefits can be accrued by TOTAL based applications. Applications that would be impossible without TOTAL. Applications that reduce your resource deployment and increase the serviceability and efficiency of your organization. In short, increased profits.

...a major increase in the effectiveness of your organization

TOTAL can offer the most significant improvement ever brought to the administration of your organization.

TOTAL will enable you to maximize the investment you have made in Data Processing.

Perhaps for the first time, you will be able to use the computer as you have always wanted to.

How do you build an Information System?

Using traditional Data Processing techniques, you must carefully plan ALL the components of the overall Information System. This results in an implementation plan . . .

In establishing your company's Information System requirements, two major problems occur :

The need to communicate them to Data Processing and other departmental management.

The need to anticipate changes in your business environment.

In practice

The plan has to be changed. Changing circumstances and changing requirements force your priorities to change. Just a change in management can mean a new direction.

This happens because it is assumed that each sub-system serving different parts of the company can conform to an overall data system.

Such an overall data system, or structure, is impossible to visualize or define at the start and will change with time and the interaction of differing requirements.

No plan can accommodate the unforeseen — new tax laws, new employment legislation, quadrupled oil prices, high inflation, company mergers, new markets.

...the plan changes

You can't predict the future, so why try ? Instead, prepare for the future and solve today's problems now.

TOTAL makes this possible by allowing you to identify the data requirements for each sub-system. You then program in such a way that with future changes only the data is changed and not the programs using it.
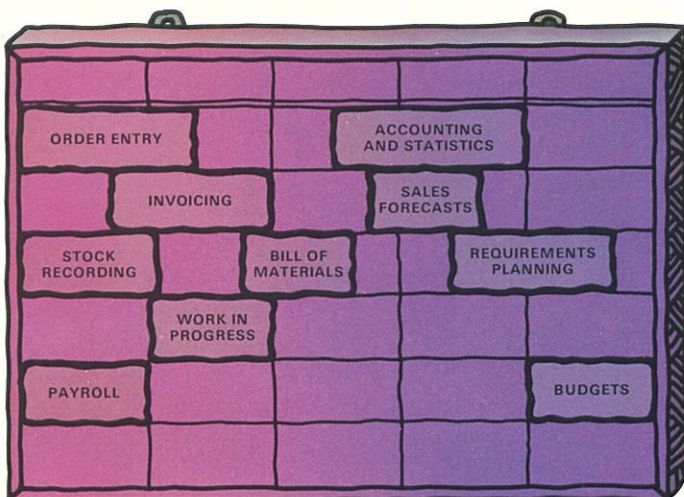
...and
to data processing management

Why not build systems in a step by step fashion ? Why worry how future systems are to be handled ?

Why not begin by solving today's business problems today ?

You have always wanted to do this. Nothing has changed — except that the tools are now available.

TOTAL makes a successful implementation possible because:

You don't have to predict the future.

Reaction to change is fast and inexpensive.

The pieces of the development jigsaw fit naturally together.

You can understand the data *and* the Data Base.

The Data Base is the means of communication between Data Processing and users.

Probably for the first time it is possible for management to understand what Data Processing is doing and where it is leading them. You will be ready for :

On-line processing, because you are already transaction based.

Distributed processing, because the Data Base can be split across mainframe and minicomputers.

Whatever the future brings in terms of hardware, because TOTAL insulates you from technological change.

This means that whatever the future brings your investment in TOTAL based applications will be preserved.

...the difference between success and failure

The degree to which management can succeed in communicating your company's needs to Data Processing

. . . the degree to which Data Processing can implement those needs ; the reaction to changing business requirements

. . . means the difference between the success and failure of the computer in your company.
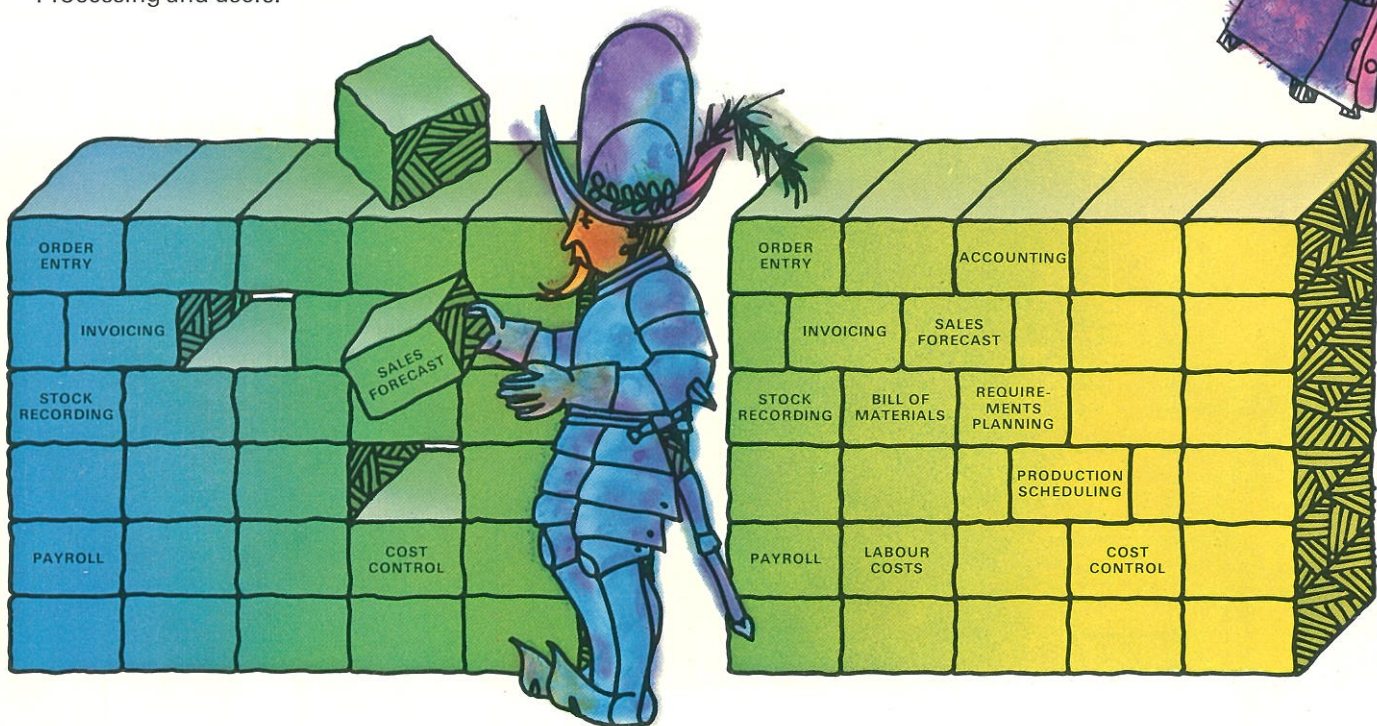
Data base philosophy

In order to implement a successful Information System it is necessary to build your Data Base with the following characteristics:

Commonness of data

Multiple users require access to the same data to obtain consistent results, and — just as important — each must be given accurate information based on an up-to-date version of that data.

Application independence

Common data is the resource upon which application programs draw. The data must be separated from the programs because the Data Base must be designed with regard to its natural properties, not according to the requirements of specific systems.

Optimal access

The data must be arranged such that it can be used effectively and efficiently for all systems and all types of users. On-line and batch systems must both access the data with equal, and maximum, efficiency.

Relatability

In order to support multiple users, you must be able to access the same data from different viewpoints. This means that internal data relationships have to be maintained.

These are the objectives that are universally accepted as being an essential part of any Data Base Management System.

...the TOTAL philosophy

In addition, TOTAL uniquely combines the following characteristics:

Evolutionary development

So you can begin with the most important problem, today's problem, and get immediate returns yet retain the ability to respond to changing requirements.

Logical business structure

So your Data Processing applications mirror the system of managment that exists within your organization. So Data Base reflects your real-world business environment and makes sense to all the people who use it.

No re-organization of the complete Data Base

So that you are not involved in huge unload/reload exercises every time you change some facet of your Data Base. Exercises that may not only be lengthy but eventually prohibitive.

Ease of use

So you don't have to invest in specialists but can still get quick results without a lengthy learning curve.

All of this ensures that the Data Processing department will continue to play an increasingly vital role in the development of your organization.
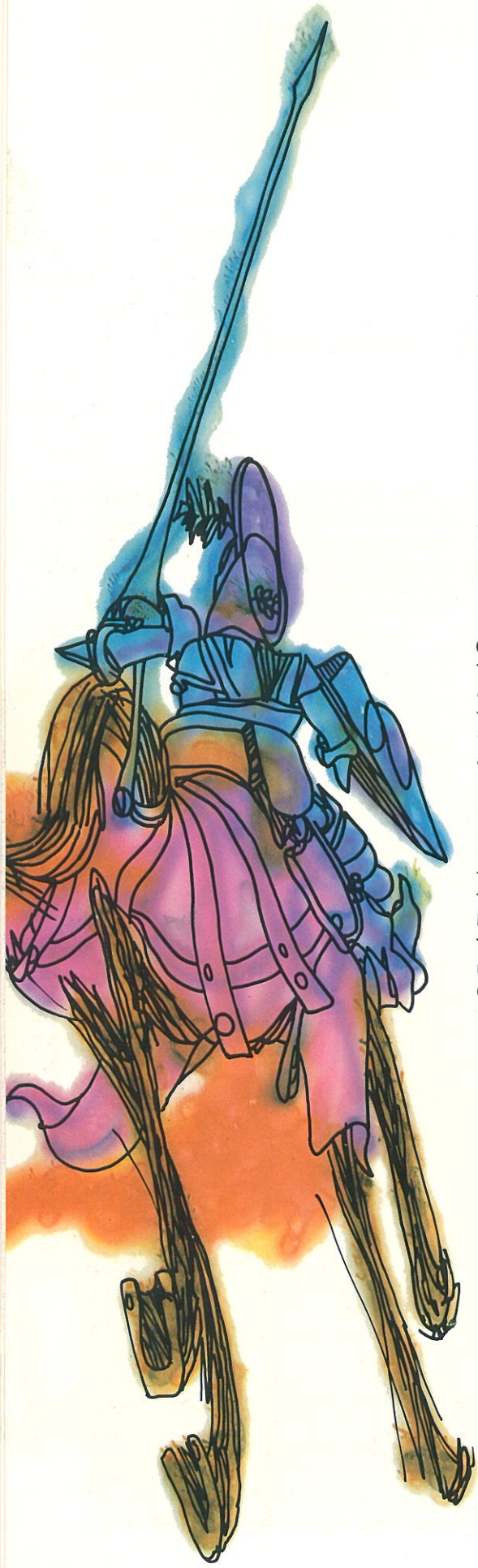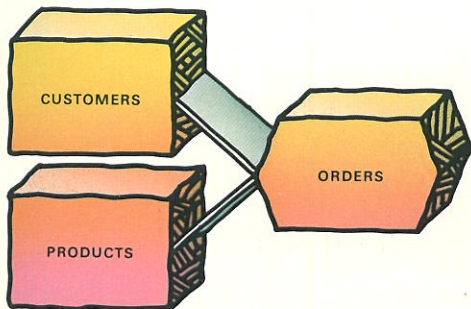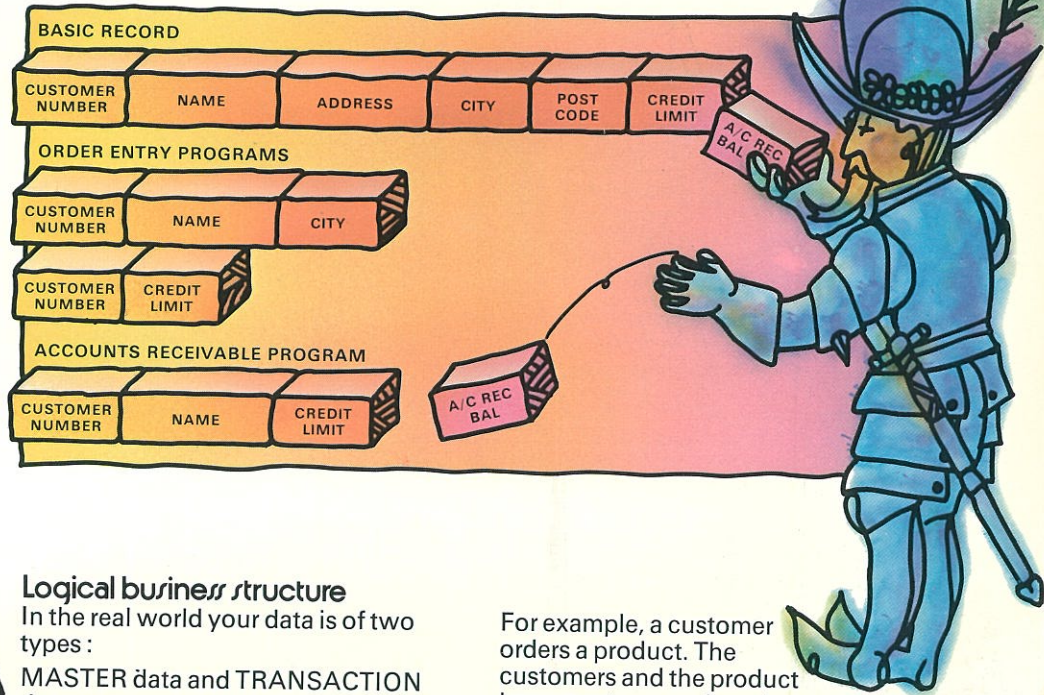
Evolutionary
Data independence means field level access.

Your programs access data at the field level — not at the level of the record or segment. Each program requests only those fields of data it really needs and is completely independent of other fields.

The addition of new fields, the addition and deletion of relationships (linkages) can now be done without modifying, recompiling, relinking or retesting any of the existing programs.

You really can build your systems in a gradual 'step by step' fashion. You solve today's problems today ; tomorrow's tomorrow.

BASIC RECORD

| CUSTOMER NUMBER | NAME | ADDRESS | CITY | POST CODE | CREDIT LIMIT | A/C REC BAL |

ORDER ENTRY PROGRAMS

| CUSTOMER NUMBER | NAME | CITY |

| CUSTOMER NUMBER | CREDIT LIMIT |

ACCOUNTS RECEIVABLE PROGRAM

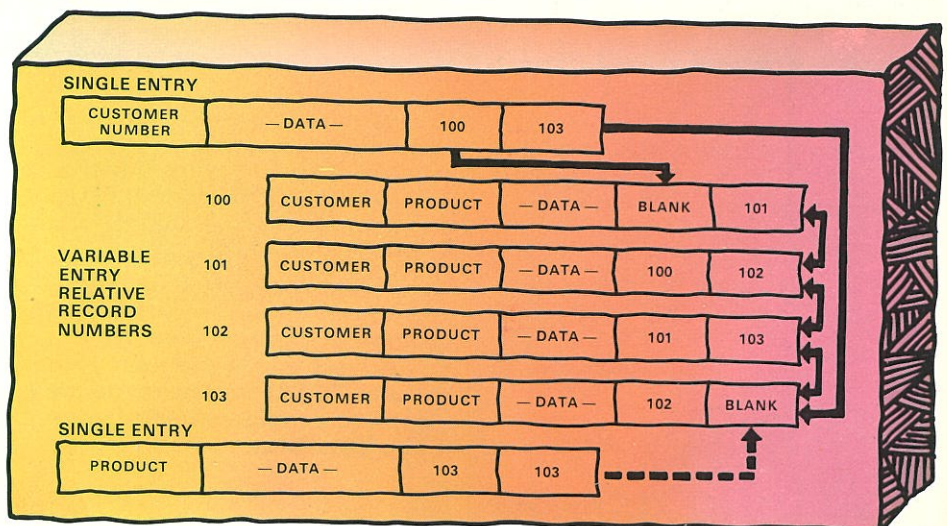| CUSTOMER NUMBER | NAME | CREDIT LIMIT | A/C REC BAL |

No re-organization of the complete Data Base
You build your Data Base gradually by creating a set of related files. Users of TOTAL have developed truly integrated Data Bases supporting their Information Systems often with more than 100 files. Each file is related either directly or indirectly with each other file.

It is imperative that the way you relate the files does not cause physical dependency of one file upon another.

If not, changing or expansion of one file could mean the unloading and reloading of the entire Data Base. A lengthy and costly business !

TOTAL's method of maintaining relationships ensures that all files are physically independent.

Now you can build your integrated Data Base without being concerned with expensive reorganization.

Logical business structure
In the real world your data is of two types :

MASTER data and TRANSACTION data.

Master data — stored in TOTAL Single Entry Files — is the data you store because you are in business. Lists of customers, products, suppliers, cost-centers . . . together with data specific to those entities.

Transaction data — stored in TOTAL Variable Entry Files — is the data you store because you *do* business. Orders, invoices, payments, payslips, production schedules, bills-of-material . . . all these are usually multiple occurrence events.

For example, a customer orders a product. The customers and the product have master records and the order is the transaction taking place between them and will therefore be stored as a transaction record.

Thus you will gradually build up a network of Data Base files which truly reflects the logical business structure of your company.

Now your applications can truly mirror the system of management that exists within your organization.

SINGLE ENTRY				
CUSTOMER NUMBER	—DATA—	100	103	

		CUSTOMER	PRODUCT	—DATA—	BLANK	101
VARIABLE ENTRY RELATIVE RECORD NUMBERS	100	CUSTOMER	PRODUCT	—DATA—	BLANK	101
	101	CUSTOMER	PRODUCT	—DATA—	100	102
	102	CUSTOMER	PRODUCT	—DATA—	101	103
	103	CUSTOMER	PRODUCT	—DATA—	102	BLANK

SINGLE ENTRY			
PRODUCT	—DATA—	103	103

SALES ORDERS

CUST A	ORDER	DATE	S'MAN	ROUTE	CUST REF
CUST A	PROD 1	QUANT	PRICE	DISCOUNT	
CUST A	PROD 2	QUANT	PRICE	DISCOUNT	
CUST A	PROD 3	QUANT	PRICE	DISCOUNT	
CUST A	ORDER	DATE	S'MAN	ROUTE	CUST REF
CUST A	PROD 2	QUANT	PRICE	DISCOUNT	

CUSTOMERS

CUST A	NAME	ADDRESS	CITY	POST CODE	CRED LIMIT
CUST D	NAME	ADDRESS	CITY	POST CODE	CRED LIMIT
CUST X	NAME	ADDRESS	CITY	POST CODE	CRED LIMIT
CUST B	NAME	ADDRESS	CITY	POST CODE	CRED LIMIT

NEW FIELDS

- Balance outstanding 60 days
- Balance outstanding 90 days
- Outstanding balance

PRODUCTS

PROD 2	DESC	PRICE	LCN	BAL	ROP	EOQ
PROD 1	DESC	PRICE	LCN	BAL	ROP	EOQ
PROD 4	DESC	PRICE	LCN	BAL	ROP	EOQ
PROD 3	DESC	PRICE	LCN	BAL	ROP	EOQ

```
BEGIN-DATA-BASE-GENERATION:
DATA-BASE-NAME=SALES
BEGIN-MASTER-DATA-SET:
DATA-SET-NAME=CUST      ** CUSTOMER DATA **
MASTER-DATA:
CUSTROOT=8                  FOR HANDLING SYNONYMS
CUSTCTRL=6                  CUSTOMER NUMBER
CUSTLKOR=8                  LINKAGE TO ORDERS FILE
CUSTNAME=25                 NAME
CUSTADDR=25                 ADDRESS
CUSTCITY=20                 TOWN OR CITY
CUSTPCDE=8                  POSTAL CODE
CUSTCRLM=4                  CREDIT LIMIT
END-DATA:

END-MASTER-DATA-SET:

BEGIN-MASTER-DATA-SET:
DATA-SET-NAME=PROD ** PRODUCT DATA **
MASTER-DATA:
PRODROOT=8                  FOR HANDLING SYNONYMS
PRODCTRL=8                  PRODUCT NUMBER
PRODLKOR=8                  LINKAGE TO ORDERS FILE
PRODDESC=30                 DESCRIPTION
PRODPRCE=4                  CURRENT PRICE
PRODLOCN=5                  PRODUCT LOCATION
PRODBALN=4                  FREE STOCK
PRODROPT=4                  RE-ORDER POINT
PRODEOQN=4                  ECONOMIC ORDERING
END-DATA:                   QUANTITY
DEVICE=3350
TOTAL-LOGICAL-RECORDS=20000
LOGICAL-RECORDS-PER-BLOCK=7
END-MASTER-DATA-SET:

END-DATA-BASE-GENERATION:
```

We started with the Sales Data Base and then added Accounts Receivable. We did not have to plan other fields and other files.

The introduction of Accounts Receivable caused us to change the Customer file. Similarly the introduction of other new files caused change to certain logically connected files.

On no occasion do you have to unload and reload any other than the logical files involved. No matter how you implement your systems TOTAL will never cause a complete unload/reload of your entire Data Base.

The concept of truly reflecting the Logical Flow of Business is clearly demonstrated. In order that you may evolve gradually, you are now confident that wherever you begin and whatever the sequence of development the end result will be the same.

...Evolutionary

**To add Accounts Receivable:**

Specify new file.

Specify new fields on the Customer File.

Utility unload/reload the Customer File.

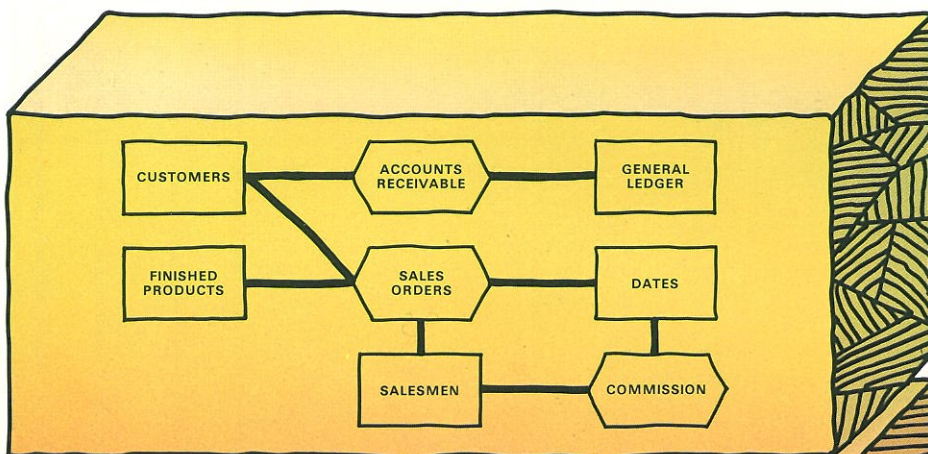Note that the Orders File is unaffected and need not even be On-line !

Because programs are only field sensitive no program using the Sales Data Base needs recompiling relinking or retesting.

This type of change can be made over night and all programs will run perfectly the next day !
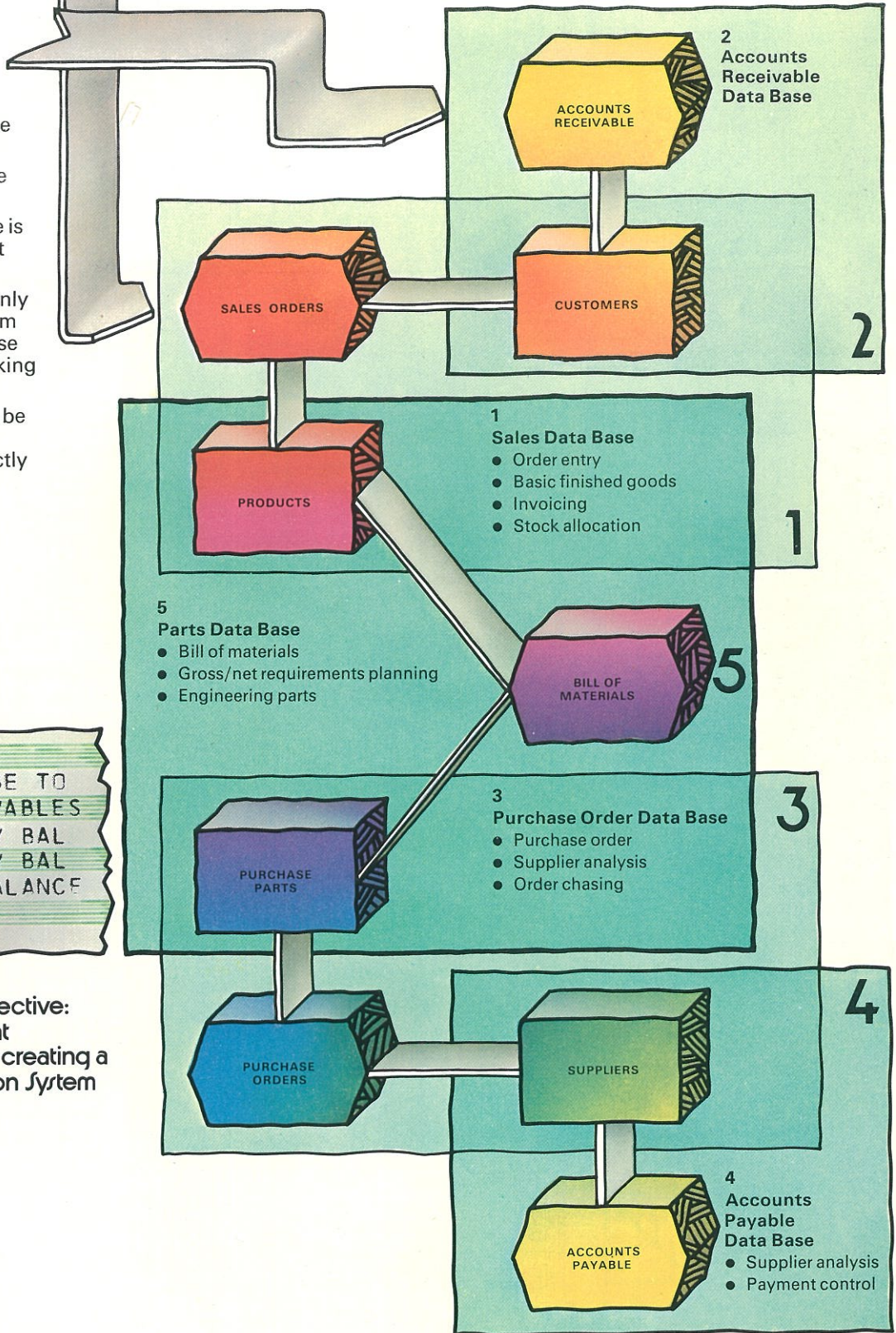
```
CUSTLKAC=8  LINKAGE TO
            RECEIVABLES
CUSTOS60=5  60 DAY BAL
CUSTOS90=5  90 DAY BAL
CUSTARBL=5  A/R BALANCE
```

You will achieve your objective: step by step development combined with gradually creating a truly integrated Information System


2 Accounts Receivable Data Base

ACCOUNTS RECEIVABLE

SALES ORDERS

CUSTOMERS

1 Sales Data Base
- Order entry
- Basic finished goods
- Invoicing
- Stock allocation

PRODUCTS

5 Parts Data Base
- Bill of materials
- Gross/net requirements planning
- Engineering parts

BILL OF MATERIALS

3 Purchase Order Data Base
- Purchase order
- Supplier analysis
- Order chasing

PURCHASE PARTS

PURCHASE ORDERS

SUPPLIERS

4 Accounts Payable Data Base
- Supplier analysis
- Payment control

ACCOUNTS PAYABLE

Order processing
Order Entry, Stock Allocation, Stock Control, Invoicing, Credit Control, Statements, Sales Commissions, Sales Analysis.
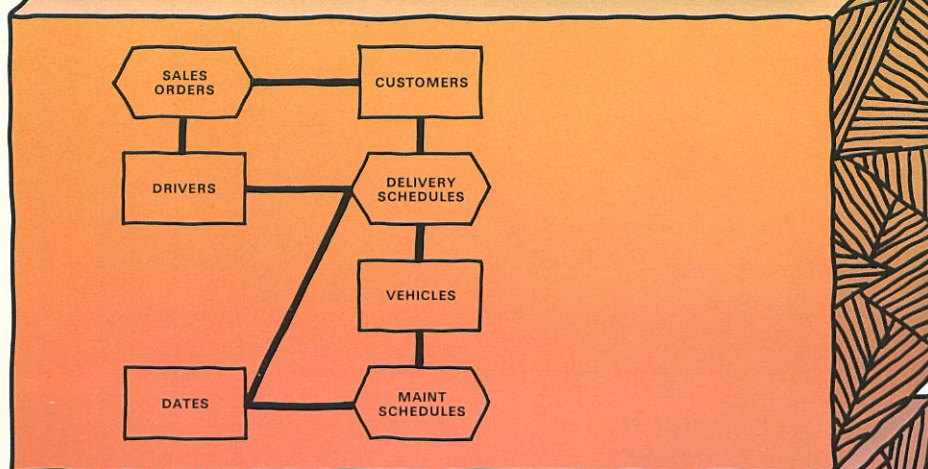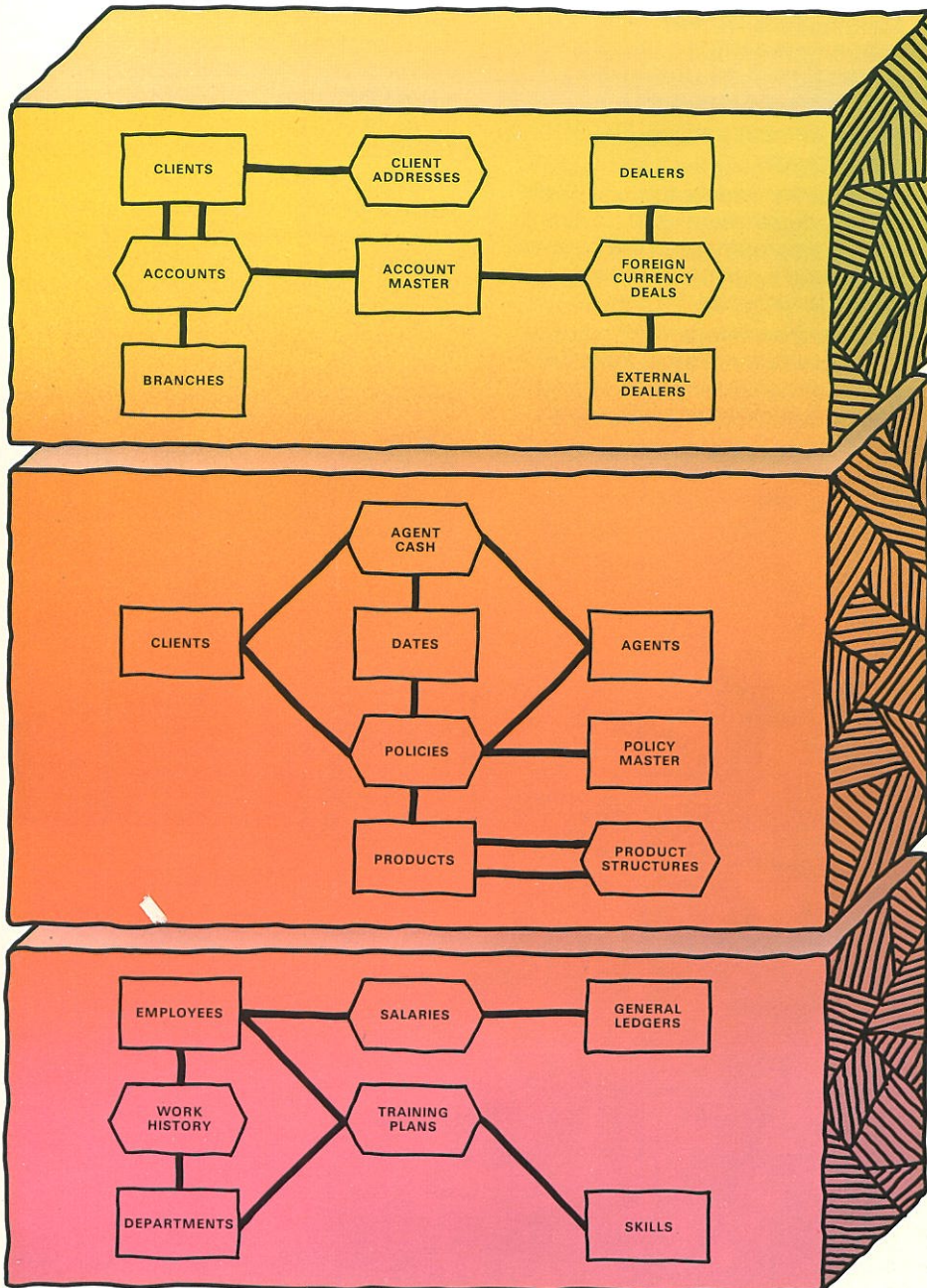
Distribution
Order-taking, Vehicle Scheduling, Vehicle Stocks, Route Planning, Sales Analysis, Vehicle Maintenance.
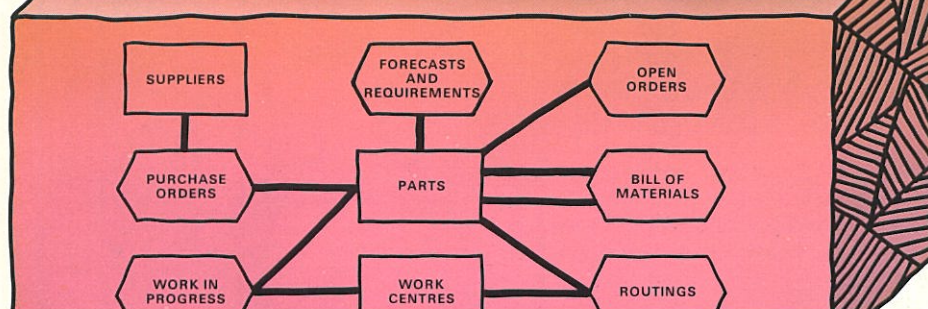
Manufacturing
Order Allocation, Sales Forecasting, Requirements Planning, Material Scheduling, Production Scheduling, Production Control, Work-in-Progress, Purchasing.

Your
TOTAL data base

Banking
Client Information, Current Accounts,
Deposit Accounts, Loan Accounts,
Multiple Account Business Status,
Foreign Exchange.

Insurance
Policy Underwriting, Renewals,
Product Performance Analysis,
Premium Collection,
Agent Commissions.

Payroll personnel
Wages, Salaries, Labor Analysis,
Training records, Manning Schedules.

TOTAL
in batch...

On demand access in batch

Now you have your TOTAL Data Base you need to bring the same leverage to the extraction and presentation of information that TOTAL itself has brought to the establishment and maintenance of your data.

A large part of any application system is represented by the reports you produce.

That is the system as far as the user of the system is concerned.

What is more, now the relationships between his data are so clear and accessible, the user wants more information — his demands for access to his data increase.

Response

Cincom has RESPONDED to the growing sophistication of its customer base and produced SOCRATES — TOTAL's Information Retrieval Language — so that the Data Processing department can RESPOND more quickly to :

Your company's need for new applications (the regular extraction and reporting).

Your unpredictable demands for information based on the data held in your Data Base (the ad-hoc extraction and reporting).

Your continually changing requirements.

and so that the response can be faster, within the department itself, to its changing environment — the hardware, the operating systems, the access methods, the storage devices.

Faster response means a saving of time — development time, turnround time, maintenance time, conversion time. And that means saving money.

Why SOCRATES?

Only the specially designed component of Cincom's matched set of software tools can take advantage of the multiple views of data and the relationships between data which TOTAL makes possible.

Only SOCRATES allows you to develop the full potential of your batch TOTAL Data Base.

SOCRATES enhances the power of your existing reporting procedures because as well as providing its own powerful printing facilities, SOCRATES allows the output from the extraction phase to be the input to conventional, file-based report writers or to your own printing systems.

Although TOTAL is the most widely interfaced Data Base Management System in existence, no mere report writer can work as effectively in the Data Base environment.
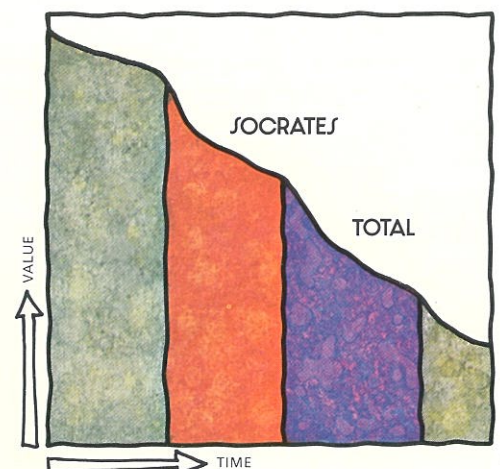
THE VALUE OF INFORMATION INCREASES AS THE TIME TO OBTAIN IT DECREASES

TOTAL for enquiry

When your users enquire of their data, they need all the associated data to provide the right INFORMATION. For example, an enquiry showing zero stock only becomes INFORMATION when you can also display incoming transactions to that stock. Those transactions, which might be purchase orders, also need to be viewed from supplier as well as stock. You need to provide multiple views of the same data.

TOTAL for data collection

You have always had data collection systems. Your problem has always been the time taken to validate that data and get it into a state of acceptance. With the advent of TOTAL and its fast On-line capabilities, you are now able to capture the transactions of business activities in the right time frame. With TOTAL you are able to thoroughly validate the data *at the time of entry.*

Even more important, you can allow new data input to be automatically made available for ENQUIRIES.

TOTAL for real time

In other words, the requirements of On-line enquiry together with data collection is a REAL TIME system. In the past, technology was not available There were many failures, with some exceptions such as the banks and airlines. However, it is not only banks and airlines who require REAL TIME information systems. You will need them too.

TOTAL fully addresses those needs

TOTAL allows true On-line 'real time' systems to be built. TOTAL's security and recovery procedures enable you to marry the package with your own teleprocessing monitor.

A Data Base that is just as effective in batch or On-line — you do not have to redesign batch Data Bases because of your On-line requirements.

We believe that the ideal solution for truly real time systems is the integrated solution. Integrated Data Base/Data Communications means TOTAL-ENVIRON/1. It gives you :

An On-line Compiler — to make On-line programming as simple as batch.

Automatic restart that is also correctly synchronised with the Data Base — now you really can update On-line without building your own software.

No throughput restrictions on updates (often a limitation due to recovery procedures) — you can provide a better service than you may have previously thought possible.

Why does On-line need a Data Base?

Your users will find that giving them immediate access to their data is the best step forward you ever made. TOTAL will enable you to maximize the benefits of that step forward.

Cincom gives you a complete, easy to use, integrated solution to your application needs, enabling the most sophisticated of applications to be built in surprisingly short time frames. — TOTAL-ENVIRON/1
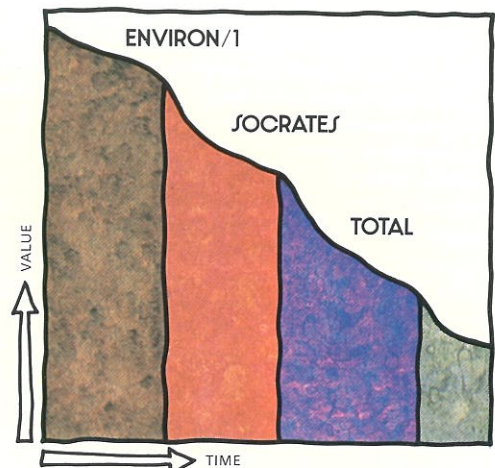
THE VALUE OF INFORMATION INCREASES
AS THE TIME TO OBTAIN IT DECREASES
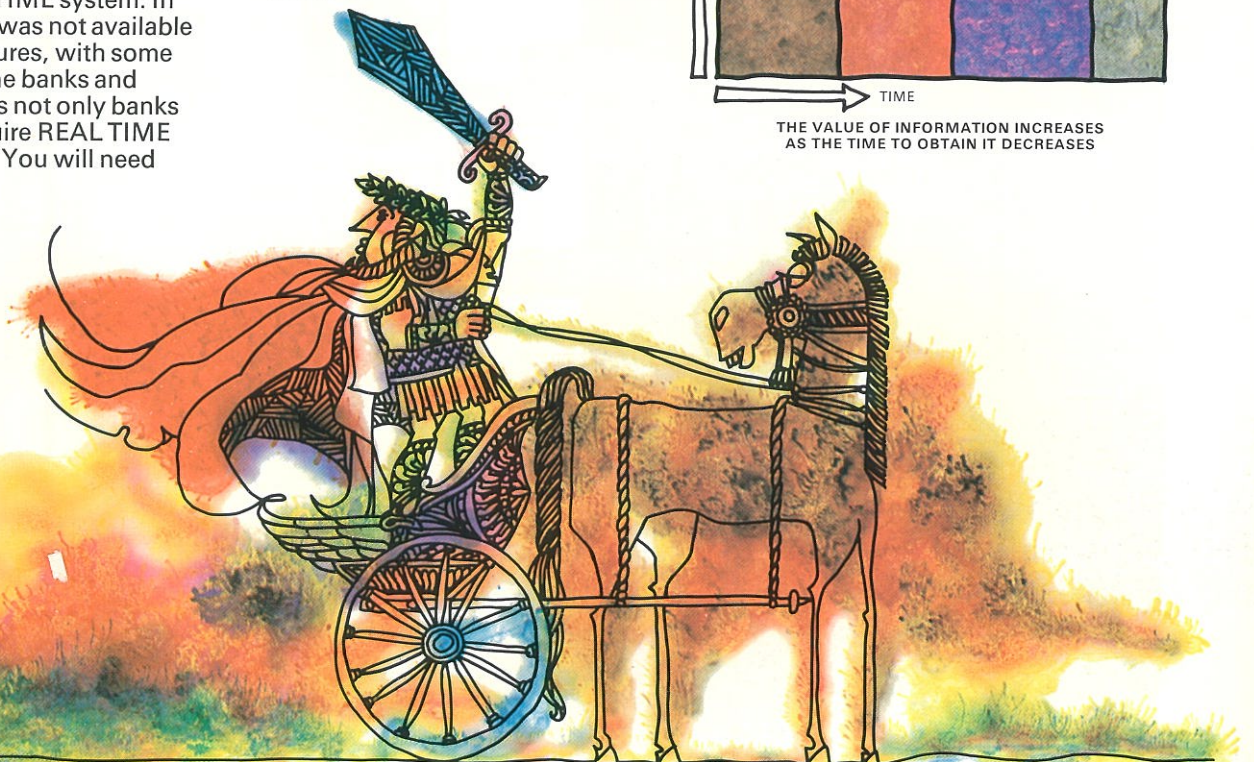
TOTAL's data dictionary...

Built around a TOTAL Data Base, the DATA DICTIONARY can be the starting point of your development.

The role of the DATA DICTIONARY is defined into two major functional groups — 'passive' and 'active'.

The passive functions provide you with a comprehensive System Documentation Data Base. This Data Base, which may be updated in batch or On-line, gives you information to manage the building and enhancing of your application systems.

There are various reports which may be produced with the aid of an in-built report writer.

Because a TOTAL Data Base is used, DATA INDEPENDENCE allows you to add your own data fields to your DATA DICTIONARY. Because of the in-built report writer you can modify the standard reports, or even generate your own.
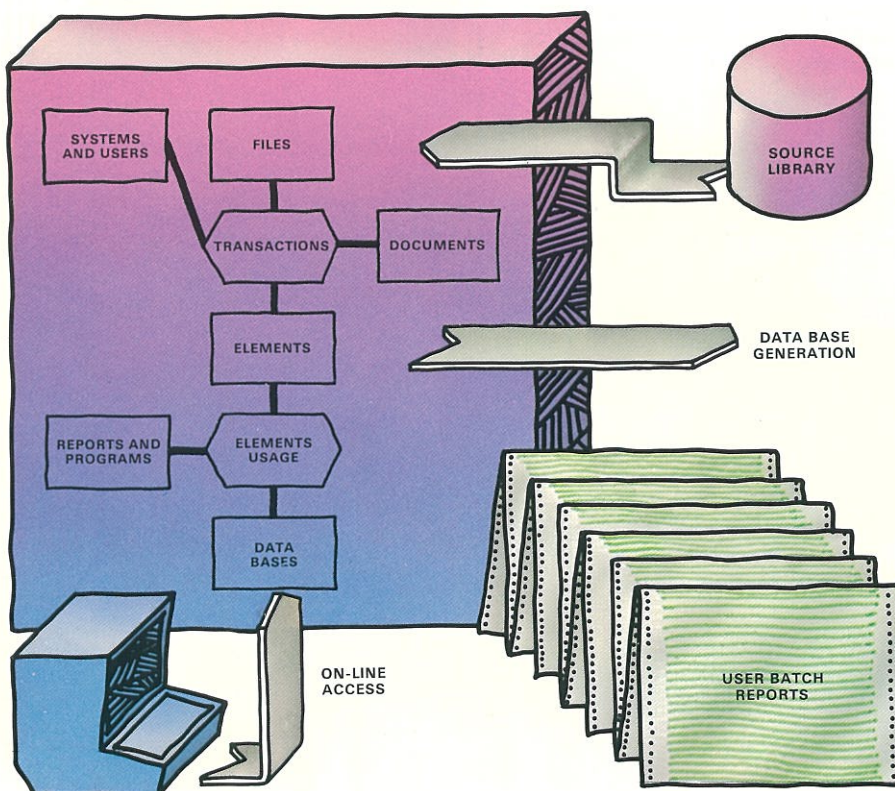
This means you can mould the DATA DICTIONARY specifically to your exact requirements.

The DATA DICTIONARY interacts actively with TOTAL by providing the input to TOTAL's Data Base definition.

That means your system specification will automatically generate your Data Base specification.

You have On-line access to the DATA DICTIONARY information and can easily access the DATA DICTIONARY data in your own application programs. Thus you have the ability to use the DATA DICTIONARY 'actively' to aid your application.

Now that hardware capabilities are increasing the DATA DICTIONARY will become central to all Cincom software. Thus, with TOTAL, you will be in step with the next generation of DATA BASE technology.

SYSTEMS AND USERS · FILES · TRANSACTIONS · DOCUMENTS · ELEMENTS · REPORTS AND PROGRAMS · ELEMENTS USAGE · DATA BASES · SOURCE LIBRARY · DATA BASE GENERATION · ON-LINE ACCESS · USER BATCH REPORTS

...and utility functions

High speed unload/reload
Designed to enable you to make operational and logical changes to your Data Base in the fastest possible time.

File statistics
Enabling you to monitor your Data Base and make informed decisions on file placement, blocking factors, chain usage etc. You can keep your Data Base running in peak condition and get the most out of your hardware.

Logging
Full facilities are available to automatically log before and after images, function log, quiet and checkpoints, etc. User image logging is also available. Logging may be to disk or tape and is applicable to batch or On-line.

Print/modify
Designed to aid check out of Data Base updates in a parameter driven fashion. Thus you can display selective records or groups of records logically avoiding the need for massive file printouts.

Run-time statistics
Allows the recording of program access to the Data Base to give data on access times etc. This data is periodically written out to a file and a report program is available for printing. User programs may also access this data.

Batch recovery
For rolling back the Data Base to the start of a job or a system check point. Can also be used for rolling forward after a storage device failure.

On-line recovery
When used with ENVIRON/1, recovery of the Data Base is completely automatic and is synchronized with task context recovery. No restriction is placed on concurrent access, such as single thread updating. Even in a multi-thread situation recovery is completely automatic.

Choosing
a data base supplier

One of the indicators of the success of the Data Base philosophy is the number of Data Base products on the market: estimates range between 15 and 20!

With all these suppliers claiming that their system is the ultimate solution, the Data Processing executive is faced with a very perplexing decision.

Certainly a technical evaluation is going to reduce the number of choices significantly . . . but what about the rest . . . how do you choose between viable Data Base alternatives?

Experienced Data Processing management relies on a 'Supplier Analysis' because they have learned (often the hard way . . . *and* expensively) that choosing a Data Base supplier is like choosing a business partner.

Why is this . . . ?

Unlike other types of software products, such as Spoolers, Sorts Utilities or Application Packages, a Data Base Management System is not an end-solution in itself.

A responsible supplier, with good local support, can ensure a successful Data Base implementation. The supplier, his expertise and active support is very much a part of what you are buying.

And, considering the investment that will be made in mainstream applications built around the Data Base Management System, can you afford not to analyse the capability of the supplier?

The actual approach taken in analysing the supplier can vary significantly. The following questions may provide a valuable insight:

Does the supplier currently provide the necessary support functions? Can he continue to do so in the future?

What percentage of DBMS revenue is derived from rental as opposed to purchase arrangements?

What proportion of company revenue is generated from the DBMS compared with other products and business interests?

How many people are employed full time in field support?

How big is the staff devoted to on-going enhancement and development of the DBMS?

What are the supplier's future plans for the DBMS? Are these known and committed to the user base?

Does the supplier use a standard contract?

Does he have a standard pricing policy?

Is an ongoing education program provided?

Where is the nearest supplier support office and how is it staffed?

Are there active user groups providing development input to the supplier?

Can the supplier provide you with project implementation resources?

The choice is vital . . . a thorough analysis will save you some expensive jousts with windmills.
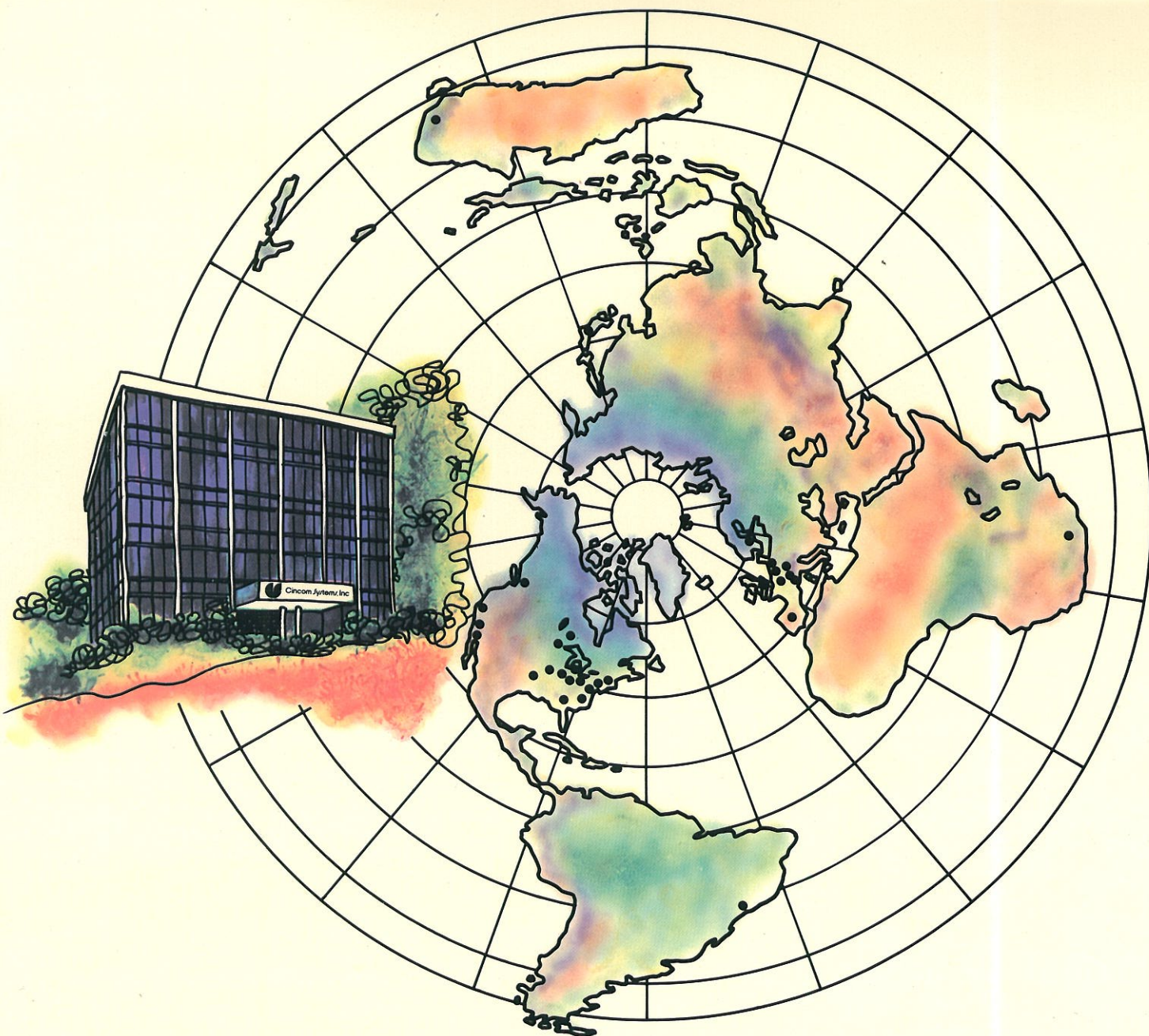
Cincom Systems your data base supplier

Cincom Systems is much more than just an ordinary software company . . . much more than just computers, programs, technicians, salesmen.

Cincom is people, ideas and concepts all merged together to successfully meet the Management Information System goals of business and industry.

Cincom is clients who are involved in almost every type of business, and organisational endeavour . . . leaders in manufacturing, insurance, banking, aerospace, oil, education, data processing, leisure and other services, government . . . in fact, leaders in every field are successfully using the TOTAL Data Base Management System.

Our commitment includes 35 support offices in 18 different countries, one of the largest technical development staffs for any single software product and a wide range of complementary product offerings.

Most important, however, is the complete commitment to an experienced and knowledgeable customer base who demand constant technological improvements.

Confidence in Cincom's stability and dependability as a Data Base supplier is reflected in many ways . . .

TOTAL's aggregate sales have made it the number one selling Data Base Management System in the world . . .

Proven user satisfaction has put TOTAL on the IDC Software Honour Roll more times than any other system on the market.

One of the principle reasons for this success is Cincom's support and services.

This means :

Continual enhancements to current products.

A Technical Support Group, on-line to trouble-shoot any problems you may encounter.

A complete staff of experienced systems analysts and programmers to help you in conversion and application development . . . a major software house in its own right.

Local user groups.

Annual sponsored Cincom User Conferences held in the USA, Canada, Europe and Australasia.

The development of new products to keep you at the peak of your data processing potential.

When you think of Information Systems, come to Cincom, who think of nothing else

Cincom Systems International: We create efficiency*