

Information World Atlas.

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Maps and diagrams are conceptual tools of recognized value. In this paper the scope and preliminary results of an ongoing multimedia project for a comprehensive set of maps and diagrams illustrating every aspect of the information activities in our world are presented.

115 diagrams/maps illustrate the processes currently followed to create indexes, books, networks, sound recordings and so on. The diverse flows of information through human brains, genetic codes, organizations, countries and similar are represented here. For every element mentioned or displayed a cipher is given with the approximate value that that element has on a global basis, while also giving graphic information as to its geographical distribution.

Introduction:

This paper presents some sample results of a current research work aimed at producing a comprehensive Atlas of the Information Age, depicting mechanisms, processes and geographical scenarios of a wide array of information developments.

Like the sailors of old we, information industry professionals, are navigating wide uncharted oceans, in many instances without proper means of orientation or of ascertaining which areas have already been covered or described. We are in need of directions that could guide our information enterprises. Such guides could well be maps, which have proved to be valuable knowledge transmitters in the past. Due to the quite complex and multivariable information developments of the past decades a series of maps or an Atlas, was considered to be the most adequate product.

Main content outline:

It is important to give some basic definitions under which I have been basing this work.

To start, out of the three main sections of the information spectrum, just two of them are being treated in this project that is the *biotronic* and the *homotronic* information. Let's remember that the *biotronic* information is that information that is characteristic of life or else of living organisms, for example, the genetic code. The *homotronic* information is that relative to the productions of the human being, such as books, maps, e-mails, telephone conversations and so on.

An Atlas is a collection of maps, but then it can include other graphical representations and such is the case here. There are certainly in this project maps with clearly defined boundaries between nations defined, but then there are also some diagrams and illustrations which do not incorporate geographical information by itself, but that contribute significantly to our understanding of the information phenomena in our modern world.

By its own aim, this project looks at every conceivable aspect of the information phenomena in the two spectrum sectors mentioned. These are quite big and in various cases there well could be the case that they are not covered comprehensively, although every effort is been made in order to achieve this.

Four different types of graphical depictions have been designed:

- 1) **Country Maps** showing actual information developments such as: books production, flowing and storing in libraries and other repositories; online databases coverage of people and businesses per country; paper versus magnetic and optical amounts of information per country and several more.

Here it is important to single out, that although there are various sources giving data on book production, such as UNESCO's Yearbook, here besides the graphical representation of this data, there is the possibility of comparing, what is the amount on books being produced, versus the amount being exported and the actual number for those being kept in public libraries and most important also in private libraries.



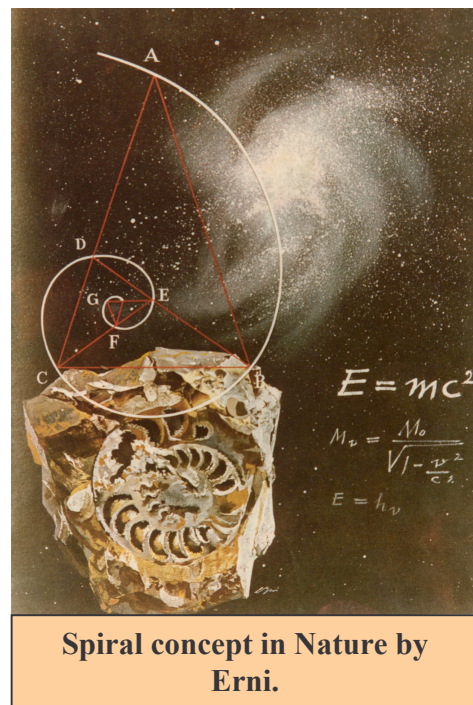
There is a discussion on the amount of information that is being generated in paper, versus other new support materials, notably Internet. Speaking of Internet there are even books like Dodge & Kitchin [1] giving hundreds of visual representations of the Web. For Lyman & Varian [3] most of worldwide is electronic or in optical supports, while for other sources, the information on paper is still the most abundant worldwide.

Trying to help in the definition of this issue, a special effort has been made to prepare a map showing the data for paper versus other media information.

Whenever it has been possible data is included in the map/diagram map body.

- 2) **Conceptual Maps** and diagrams, showing the different actors involved in the most important information processes, such as database creation; web pages and search engines, document procurement services and a score more.

The Internet, for example is definitely a complex phenomenon. There are pages, web sites, hosts, searching machines and various other actors playing at the same time. With hundreds or even millions of web pages available, to have some order or hierarchical presentation of these phenomena is difficult. Many authors have tried to present at least a fraction of it. Here



Spiral concept in Nature by Erni.

we have taken the approach of preparing simple diagrams, with not many elements, but more intended to explain the concepts and their relationships, that giving a knock out impression which is what other seems to be aiming at, when presenting diagrams or maps with thousand of lines on them.

The document procurement services for example represent the interaction of various actors and/or organizations. A detailed diagram here show which are their specific tasks and responsibilities for a successful work. A similar approach is given when talking about database creation, which besides the description of the basic process, for databases such as Chemical Abstracts or Excerpta Medica will show the countries with the biggest number of databases or databases with the biggest number of records.

- 3) **Historical Maps**, showing different tendencies in information integration, such as development of OPACs and collective catalogues being linked in global networks.

Efforts in many countries looking after the integration of catalogues of collections available are something that has been done for at least three centuries. Today with the Internet and other related efforts it is possible to loose sight of the previous integrative efforts. This is then presented here.

Particularly important historical efforts, for example the quantification of newspaper and related publications by H.P. Hubbard in 1882, is here presented in a curious map, showing the political and geographical distribution of the countries in the nineteenth century as well as the amount of publications in every area.

The creation of libraries, starting in 750 A.D. up to the present is another interesting map in this section. The spreading of the printing press is another case in which several maps have already been done. Because of this here there will only be a diagram with some explanation of the printing process in general.

- 4) **Prospective Maps** and diagrams showing expected developments in the future such as databases for information on flavors & smells.

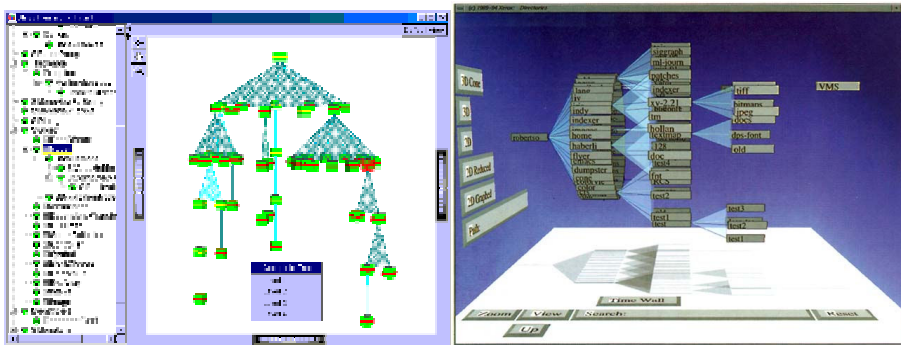
Maps have a curious characteristic of being usually the representation or something that was or may still be, but rarely if ever of something that could be in the future. Here we have a section of 5 maps, where the future of information is given, on the basis of the entire previous map making efforts.

For these maps special attention have been given to the scalability, legend, compass, title and texts accompanying each map and reflecting many well know names of information companies, databases producers and search engines developers among others. These are then, besides graphical representations of patterns and data, a list of sources or authorities.

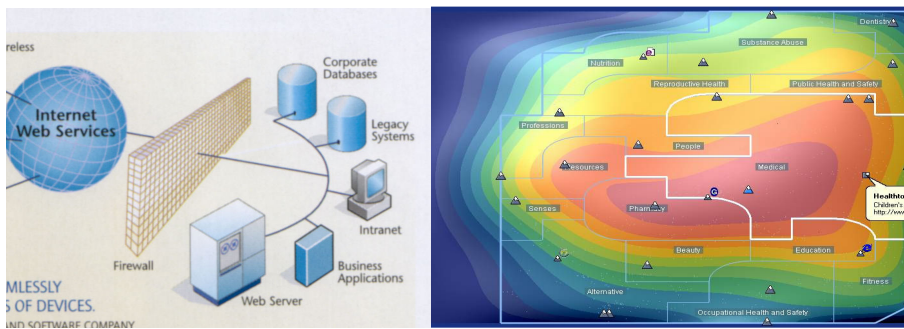
The general outline for this atlas calls for 115 basic/diagrams. There is still the possibility in the current stage of this project, to include some additional concept of importance to the aim of this product, but then, the amount of maps/diagrams here indicated has to be considered to be a minimum amount.

Basic concepts for the information World Atlas.

No	Concept	No	Concept	No	Concept
1	advertisements	41	incunabula	81	papyri
2	animal brains	42	indexes 1	82	parchment
3	archives	43	indexes 2	83	patents
4	audiovisual materials	44	information data systems	84	pencil 1
5	blackboards	45	inscriptions 1	85	pencil 2
6	books	46	inscriptions 2	86	photocopies
7	brains processing	47	internet 1	87	photographs
8	cable submarine	48	internet 2	88	plaques
9	cards 1	49	internet 3	89	post 1
10	cards 2	50	invoices	90	post 2
11	catalogues	51	journals	91	post 3
12	checks	52	keyboards	92	postcards
13	cinema	53	labels	93	posters
14	clippings	54	libraries 1	94	prints
15	cloth	55	libraries 2	95	radio
16	computer software	56	libraries 3	96	receipts
17	computers 1	57	machines 1	97	reports
18	computers 2	58	machines 2	98	sales
19	containers	59	magnetic/optical materials	99	sculptures
20	coupons	60	mail	100	serials
21	credit cards	61	manuscripts	101	signs
22	curr per	62	maps	102	sound recordings
23	databases	63	memos	103	species
24	diplomas	64	microforms	104	stamps
25	displays	65	models	105	standards
26	dissertations/theses	66	money	106	telephone 1
27	documents	67	museums	107	telephone 2
28	dossiers	68	music	108	television
29	drawings	69	music scores	109	telex/telegraph
30	electronic mail	70	names	110	tickets
31	fax	71	networks 1	111	verbal communication
32	games	72	networks 2	112	video recordings
33	govenment documents	73	notes	113	volumes 1
34	graphical	74	numbers 1	114	volumes 2
35	gravestones	75	numbers 2	115	watches
36	hubbard	76	numbers 3		
37	human brains	77	packaging		
38	illustrations 1	78	paintings		
39	illustrations 2	79	pamphlets		
40	illustrations 3	80	paper		



Samples of presentations of information that are being considered to incorporate in this project.



Current status of this project.

The basic definitions of titles and categories for the maps and diagrams of it have already been done. Most of the collection of basic data has already been finished. There remain some secondary calculations and the actual making of the maps and diagrams, which should be available by next November.

Conclusions:

- a) A complex phenomena like information development demands special efforts to grasp it.
- b) A map is one of most recognized means of describing a combination of visual, textual, mathematical and colloquial information.
- c) The maps designed for this Atlas give a comprehensive coverage of the information phenomena for our planet at the beginning of the third millennia.

References:

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 - 3.- Lyman, Peter & Varian, Hal:
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 - 4.- Shannon, Claude:
The Mathematical Theory of Communication, Bell System Technical Journal, 1948.
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