DIGESTING FOR A MULTICOMPANY MANAGEMENT AUDIENCE*

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This paper deals with a summarizing service that differs somewhat from abstracting. For want of a better name, it might be called "digesting." Through use of a specific example, I shall attempt to show how such "digesting" differs from abstracting, both in purpose and in methods. The example is a monthly publication covering technical and economic developments of interest to management levels of petroleum-refining companies. Called "Petroleum Refining Developments," it has been offered, for the past seven years, as a gratis service to a limited, relatively small group of key personnel in Ethyl Corporation's customer companies.

An abstract, according to Webster, "comprises or concentrates in itself the essential qualities of a larger thing or several things." Thus, presumably, the ideal abstract could substitute for the item abstracted. Here is the first point of difference, since our digest is by no means so ambitious. Instead, its aim is to call significant items to the attention of busy executives and tell them where they can find the details. In doing this, it does not decrease the need for the publications digested. Instead, it increases their value to a select audience severely limited in the time they can spend on scanning the many publications that might contain information of importance to them.

Our digest does this by scanning for its readers, page-by-page, some 85 issues monthly of 20 publications which quite well cover their major fields of interest. Unlike an abstract bulletin, it makes no attempt to report something from each article in each periodical covered. Nor does it report everything in a given article. Instead, it very briefly calls attention to what has happened in certain areas of greatest importance to its specific audience. Only fresh information is reported — and only enough of it to convey its basic gist and significance, that is, just enough to key the individual reader to items of particular interest to him. Facts from several sources often are included in a single paragraph, making the publication a roundup-type summary rather than an abstract bulletin.

Every effort is made to tailor the digest to the special needs of the small group of petroleum-refining executives that it serves. This involves analyzing each potential item for what is likely to be interesting, significant, and important to a majority of them. It also means leaving out details, perhaps even whole items, that would be desired by technical personnel working in specialized areas. This combination of greater selectivity in items covered and greater briefing of the items reported results in a publication that can be read from cover to cover in half an hour or so. That half hour does not obviate the need for further reading. But by providing a descriptive and fairly informative index to the more important published developments, our digest reduces scanning time and makes the additional reading time more productive.

This, then, is our aim -- to reduce markedly the over-all time that petroleum-refining executives must spend to keep up with published developments in their major fields of interest. This goal places extreme emphasis on speed in reporting. To achieve its purpose, our digest must appear immediately upon the heels of the publications it covers. A little later, I will go into the methods employed to speed production of our digest. But, for the moment, I only want to point out that the promptness requirement is a controlling factor in our case.

By way of contrast, let us look briefly at two extremes. The purpose of Chemical Abstracts has been defined as "preparing concise summaries... from the indexing point of view."[1] Here the goal is to provide a timeless reference tool for chemists. Speed in reporting must necessarily be sacrificed for the sake of comprehensive coverage of the world's literature and for thorough indexing and cross-indexing. Thus, the time it takes for an abstract to appear averages three to four months.[1] But the value of these abstracts continues for years. In fact, from the literature searchers' point of view, their value increases with time -- as their use is facilitated by annual and decennial indexes.

At the other extreme, Current Chemical Papers, which has replaced British Abstracts, cuts appearance time to only a matter of weeks, but at a sacrifice in comprehensiveness. It is primarily an indexed listing of titles.[2] This is practical only because our Chemical Abstracts fills the need for a comprehensive abstract journal written in English.[1]

Although petroleum refining is a large and important industry, its literature is only a fraction of that which must be covered by Chemical Abstracts or Current Chemical Papers. Therefore, we can achieve promptness without too great a sacrifice in comprehensiveness. At least that is what we try to do. Some of the philosophies involved in summarizing current information have been discussed by B. H. Weil in his book, "The Technical Report."[3]

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Deciding What Journals to Cover. — Time, staff size, and cost set limits on how many publications we can scan. Thus, we first had to consider the subjects of greatest interest to petroleum-refining executives and classify these subjects into a few major categories. Then we had to decide which journals to scan in order to cover those categories adequately but with a minimum of duplication.

To cover petroleum products and the processes for making them, we chose six periodicals. These included one daily trade newspaper, two weekly journals, and three monthlies. To supplement the coverage of product-vehicle relationships, we added the SAE Journal, an automotive-industry journal published semimonthly, and our own bimonthly, Ethyl News. To cover petroleum by-products and derivatives, we added Chemical & Engineering News, two other chemical weeklies, a plastics-industry journal, and two rubber-industry journals. Then, for further coverage of technology, we chose Industrial and Engineering Chemistry, Chemical Engineering Progress and a commercially published monthly. Finally, as further sources of marketing and economic information, we added the Wall Street Journal, a business weekly, and a weekly specializing in petroleum-industry marketing. Thus we routinely cover a total of 20 publications. However, in the interest of fast reporting, we often cover technical meetings by means of preprints or prior-printed abstracts.

Deciding Format. — The need for promptness dictated that the digest be typed rather than typeset. Thus, the 8-1/2 by 11 inch page that is standard for typed material seemed best. Having Varityping service available, we selected suitable sizes of type for centered main headings and flush-left subheadings. For the text, we chose IBM's proportional-space type to approximate the rapid, easy-reading advantages of typeset copy.

For the first few issues, we used a standard white offset paper stock, but we soon changed to one with an ivory tint. This was done to reduce the rather glary contrast between the black text and the white page. The "newspaper style" of the IBM type makes it more legible and, in many respects, easier to read than Elite or Pica type. However the IBM characters are so shaped that more "black" appears per unit space. Going to the ivory-tinted stock reduced the contrast and, at the same time, made the pages easier to read under strong illumination, where "light-bounce" is tiring to the eyes.

Deciding Organization. — We already had decided the broad general categories we should cover and the journals we should scan in order to do so. Now we had to decide how the digest should be organized. We felt that we should maintain discrete categories, since some of our readers would be more interested in one, some in another. Table I shows the categories finally selected.

TABLE I. CATEGORIES COVERED

1.00	Products
2.00	Processes
3.00	Plant Developments
4.00	Economics
5.00	By-products and Derivatives
6.00	Petroleum Synthesis
7.00	Other Related Subjects

This table also shows the order in which we decided to present the categories, based on their general level of interest to the majority of our readers. Since products are the reason for corporate existence, they seemed the logical choice for first place. Processes came next, because of the close technological and economic interrelationship between product-quality requirements and the processes by which these requirements can be met.

There was no particular reason for putting the "Plant Developments" section ahead of the "Economics" section. But we felt that these two sections should come next because they include information of broad general interest to all refiners. Presumably, all of our readers would be interested in new plants and plant expansions planned by their competitors. Likewise, they all would be interested in supply and demand statistics and forecasts, new marketing methods, and the like.

The remaining three sections cover subjects of greater interest to some refiners than to others. The "By-Products and Derivatives" section was expected to be of greatest interest to companies already in the petrochemical field, but of almost equal interest to those considering possible entry into the field. It should also be of some interest to companies having by-products suitable for sale as petrochemical intermediates.

The next section, "Petroleum Synthesis and Substitutes," covers a field of rather mild but continuing interest. Hardly a month goes by without some news of actual or proposed projects to produce gasoline and other products from coal, oil shale, tar sands, etc.

The last section is a sort of "catch-all" for subjects bearing some relation to some phase of the refining business. Here we include information on new research laboratories, on present and predicted levels of research spending in the refining, chemical and other industries, and on the technical-manpower situation. Other subjects include areas of possible competition or participation, such as atomic energy, solar energy, devices to convert heat to electricity, ion propulsion, etc.

Developing Suitable Methods. — Having decided on what we wanted to accomplish, we next had to develop fast and reasonably

economical ways of doing it. A check showed that the monthlies we planned to cover usually come in by the twentieth of each month. Hence this was the date we selected for completion of scanning and start of digesting.

We considered but rejected the idea of digesting the items as soon as they were found during the month. While this would give us a head start on the analysis and writing phases, it had two disadvantages. One was potential waste of effort, since later developments sometimes could negate certain items and could require substantial alterations of others. The second disadvantage was a lack of over-all perspective. Waiting until all of the items are in makes it possible to arrange them in order of related significance. This results in a smoother-reading, more meaningful publication.

We decided to have just one person scan all of the publications covered. This person was briefed thoroughly in the types of items to look for, and was asked to select everything the digester might consider worth reporting. Limiting the preliminary selection to one person was believed desirable to prevent excessive duplication of items reported earlier and to develop the greatest competence through experience.

Pertinent items are classified according to subject through a simple code based on the order in which the subjects are to be reported. Table II shows an excerpt from this classification scheme.

TABLE II. CLASSIFICATION WITHIN CATEGORY

5.00	By-products and Derivatives
5.1	Specialties (e.g., insecticides)
5.2	Hydrocarbons
5.3	Oxy-hydrocarbons
5.4	Detergents
5.5	Plastics and Fibers
5.6	Synthetic Rubber
5.7	Carbon Black
5.8	Nitrogen Compounds
5.9	Miscellaneous
5.91	Sulfur Compounds

Each pertinent item is classified by this scheme and clipped, in its entirety, from the publication in which it appeared. If an item covers more than one subject, Verifax copies are made for each subject classification. If the clipped items already are 8-1/2 by 11" in size, they are filed in folders bearing the appropriate classification numbers. If not, they are mounted on 8-1/2 by 11" sheets for easy handling during the analysis and digesting phases.

Thus, when the twentieth of the month rolls around, the digester has before him a set of file folders, each containing various items of information on a single subject. His job is to analyze each item for its basic significance and express the gist of it in as few words as possible. In effect, he is a reporter with severely limited space allotments -- and a very short deadline. We will consider the brainwork part of this job later. However, first, let us look at the methods used to speed production.

From Dictation to Final Copy. -- Once the twentieth arrives, digesting time, printing time, and the U. S. Mail are the factors determining how soon our publication gets to its readers. To make this time as short as possible, the digester dictates his comments on each item. Usually he covers one whole category before passing his wire-recorder cartridge to his secretary for transcription. While she transcribes, he dictates digests for the next category. When the first reel of dictation has been transcribed, the digester examines the transcript, correcting his grammar, checking numerical quantities with the original items to make sure no decimal places have been added or dropped, and in general "proofing the rough."

After a section or two of transcript has been proofed, the secretary begins typing the final copy on photo-offset paper. Thus, the two slaves to a deadline go on -- the one dictating and correcting the transcript, the other transcribing and typing final copy. Now any good secretary can type faster than her boss can think, so to make full use of her time, she also makes Verifax copies of the final draft to send to our three reviewers. The net result is that, two and a half or three days after dictation begins, the digester finishes his work, and the secretary completes hers within the next half hour. We allot the reviewers a full day for examination and comments. In practice, they seldom require that much time.

By the time the reviewer's comments are in, we have already notified the printer how many pages the issue will contain. In turn, he has set up his dummy and prepared the photographic boards to drop our pages in place. The Varitypist has set heads, subheads, and table of contents. Thus, upon the last reviewer's OK, we go to press.

When we began publication, we chose a printer who would guarantee us the fastest possible service. His time of three days is about the minimum obtainable, since it covers photography and plate making, printing and drying time for two sides, folding, binding, trimming, and delivery. To make the most of his speed, we plan our work to get the copy to him by at least Tuesday noon. Thus the printed issue is back by Friday noon, in time to mail out by Friday evening. Thanks to postmen who work on the weekend, it gets to most of its readers on Monday morning.

Wanted -- a Semipermeable Membrane. -- In discussing the methods we have adopted to attain speed, I passed rather lightly over the phrase "dictating the digests." I sometimes wish we had a semipermeable membrane which would selectively extract the significance from

printed matter and pass it on to the reader as a meaty gist. Unfortunately, however, we still have only imperfect gray protoplasmic matter, somewhat improved by experience and feedback.

To make this imperfect filter work as well as possible, we load it in small increments. Assuming we are confronted with a lengthy article or a preprint of a technical paper, we program our questions in series. First we ask ourselves: "What was the author's purpose — was his aim to improve a product or a process, solve some problem, or sell an idea?" Then we ask the 64-dollar question: "Will it help refiners that the problem is solved or the process improved?" If the answer to that question is positive, we ask others, such as: "How will it help?" and "How much?" Finally we ask: "What is the solution?"

These questions are designed to put our gray matter on the same wave length as the average refining executive's. We believe he wants to know what has happened, what it may mean to his company, and what he and the company should do about it. Obviously, no outsider can answer the last question for him. But we can report what has happened and what others think it may mean to the industry. And through references, we can direct him to as much information as has been made public.

The Preferred Location Stratagem. -- In hunting for the answers to the above questions, we rely on the "preferred-location" stratagem. Where do authors customarily put significant information? The introduction almost always states the problem, usually tells why it is important, and often states the general approach used to solve it. The conclusions section generally lists the findings in fairly concise terms, interprets the relative importance of the various findings, and points up the over-all significance of the work. Finally, we look for the author's recommendations. There may be no label on them, but it usually isn't hard to tell when an author is giving advice or trying to sell an idea.

Mapping the Territory. — After deciding what to look for and where to look, we start the hunt, tagging our quarry as it is found. This tagging may be done a number of ways. My own method is red-penciling a vertical line in the margin from the beginning to end of statements I consider significant. Then I number the marked sections, in order of importance — or, more precisely, in the order I plan to report them.

Composing the Lead Sentence. — Earlier it was mentioned that the digester is, in effect, like a newspaper reporter having a severely limited space allotment. This limitation on space makes a good, specific lead sentence even more important to him than to the average reporter. Norman Shidle, editor of the SAE Journal, calls such a sentence a "peg" from which to hang all other sentences in the piece of writing.[4] It acts both as a guide and a limitation; and, as he says, "reference to it should decide the fate of every fact and idea that knocks for admission to the writing."

When Shidle's advice is followed in digesting, the result is not unlike a brief, meaty news item. Normally, the subject of the lead sentence is a tip-off to the subject of the whole item. Feedback from one of our readers suggested that we underline part of the lead sentence to key in the reader immediately to each paragraph's subject. Thus, the subject of our "peg" usually is in the form of a noun phrase having just enough words to identify the subject of the whole item.

The predicate verb of the lead sentence almost always is an active, working one — telling what the subject does for or against the interests of refiners: e.g., saves (money), upgrades (octane number), causes (wear), etc.

Normally, a noun, noun phrase, or clause follows the verb, completing the statement about the subject and pointing out its significance.

Thus, our typical peg sentence always covers the "What" part of the reporter's traditional lead. Usually, we also include the "Who" part to make clear the person and company supporting the idea expressed. The "Where" and "When" parts may or may not be included in the peg, depending on how long the sentence is becoming. If they are not, we usually bring them in at the start of the next sentence somewhat like this: "Speaking at the fall meeting of the ACS, they explained that. . . ."

Completing the Digest. — The sentences following the peg should make clear what the development is, what problems it solves, or what opportunities it offers. They should define the subject further, if it is not already well known, and they should amplify and explain information contained in the peg sentence.

A Couple of Examples. -- Excerpts from two of our digests may illustrate the peg sentence and its follow-up sentences. One item, covering three papers at the same meeting, started in this way: "New methods for measuring end-gas temperature in engines (that much was underlined) are helping to explain the effect of engine and fuel variables on knock, (so far we have covered the "What"), the SAE was told during its summer meeting in Chicago." (The tag end contains the "When" and "Where.") In this case, the following sentences very briefly described how each method works. They also pointed out that two of the methods measure peak temperature in the gas, while the third measures the average for the whole volume.

The second item, giving additional information from one of the papers, began: "Practical results from study of end-gas temperatures (that much underlined) by the sonic-velocity method may include automobile engines milder in their antiknock requirements, Ethyl Corporation researchers told the SAE." The next

sentence read: "Thus, petroleum refiners may be able to meet future antiknock requirements without resorting to increasingly expensive processing methods, they said." As can be seen, two sentences were needed here to fully convey the significance. The remainder of the item reported what was found, in three fairly short sentences. "New knowledge obtained in the study helps explain fuel sensitivity and engine severity. The study showed that engines become milder with increases in compression ratio and spark advance. Factors making engines more severe include increases in temperature of the inlet mixture, more throttling, and fuel-air ratios leaner than chemically required."

Now, obviously, such a digest cannot substitute for a paper that was 19 pages long in its typeset version. However, we do believe it tells the reader enough for him to decide whether he wants to know more. We also think it may tell some all they need to know for the moment.

Things We Must Keep in Mind. — We work on the assumption that most executives do not have time to interest themselves in fine details or long discussions of theory. So we put in only the minimum needed for understanding of the technical and economic importance of the item.

Being so selective requires many tough decisions on what to include and what to leave out. Sometimes we are impressed by a fact that is particularly interesting but not strictly essential to reporting of the development and its significance. Such facts we may decide to include, but only after careful study to make sure that they are broadly applicable, instead of so specific to a particular case as to be only partly true or misleading when taken out of context. And if an item involves both advantages and disadvantages (of about equal importance), we must be sure to include both sides of the question.

What must always be uppermost in our minds is our executive audience — its interest in better products, better processes, and, above all, cost, profit-making potential, and possible savings.

Designing for Readability. — I have already touched on some of the mechanical methods used to improve readability. These include type face, tinted paper, Varityped headings and subheadings, and underlining of part of each lead sentence. Another mechanical device is keeping paragraphs reasonably short -- usually no more than a dozen lines. This breaks up the page and keeps it from looking so formidable. But, more importantly, it gives the reader a momentary breather.

These mechanical devices help, but we believe the most effective aid to readability is to report only what is important — and to make every word count in doing so. This is a tall order, and we can only approximate filling it. However, we find we can come reasonably close by adhering to certain well-known principles of clear writing.[5] These include using short words, short sentences, active verbs, and familiar words wherever possible. Where unfamiliar terms must be used, we either define them directly or make their meaning clear by context, example, or further elucidation in succeeding sentences.

Another way of saving time for the reader is by tabulating quantitative information, even if it was not so presented in the original item. Tables can be more than just a means of setting down values in concise form. They also can be used to classify and arrange the data to facilitate comparisons by the reader. Thus, they can increase comprehension as well as save reading time.[6]

In order not to break reading continuity, we do not put bibliographic references inside a paragraph, but at the end, instead. For the same reason, we make very sparse use of parenthetical phrases or clauses inside sentences. When we do use them, we keep the parenthetical material very short (two to three words).

We give the references at the end of each item, rather than using reference numbers to guide the reader to a bibliography at the back of the publication. We believe he may want to know the source of a particularly interesting item immediately, and not to have to stop and leaf to the back in every such case.

Summing Up. — This has been a lengthy discussion of a special case in digesting for a multicompany management audience. Actually, our work boils down to covering the developments most important to refiners, while being selective enough to keep reading time to half an hour and offering readers a low Fog Index,[5] even at the sacrifice of some sophistications in writing style.

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