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Writing as a Tool for Economic Research

By Esther M. Colvin and Ronald L. Mighell

This article calls attention to the usefulness of an often neglected but basic tool of the economist's trade—the art of writing so as to carry ideas as exactly as possible from one mind to another, and sometimes from one part of one mind to another part of the same mind. Writing is a tool both in doing research and in presenting research results.

ONE OF THE TOOLS of economic research that is not always recognized is good writing. Like other tools, writing may be put to different uses. It may be used for truthful communication or for skillful concealment of real meanings. Even the Indians distinguished between those who spoke with the straight or the forked tongue.

This paper is concerned with the use of language on the part of those seeking true knowledge. John Locke (*8*)[1] thought that a word if properly used should "excite in the hearer the same idea which it stands for in the speaker." John Locke was a part of the revolutionary 17th century in England. The ideas expressed in his famous *Essay Concerning Human Understanding* grew out of an inquiry into what the human mind could know and not know. The *Essay* was really a treatise on the meanings of words as tools of investigation and action. Locke's suggestions were to make ideas as clear and distinct as possible by the use of words "as near as may be to such ideas as common usage has annexed them to."

Until they have been organized and put into readable form by the research worker, the results he has obtained from his research study are of value only to himself. Good writing, and by *good* writing, we mean *effective* writing, in any field is a powerful tool. Witness Thomas Paine's pamphlet, "The American Crisis" (*12*), which gave the cold and starving men at Valley Forge new impetus to help them through that dreadful winter when hope was at its lowest ebb. "These are the times that try men's souls!"

By effective writing we do not mean necessarily writing that has the personal touch—this is hard to attain in any kind of scientific writing—but writing that sets forth the subject clearly so that its readers can follow it with a minimum of difficulty.

Take the book written by an entomologist in the Department of Agriculture a few years ago (*6*). This scientist, who used his book as an example of how not to write, in a writing workshop held in Laramie, Wyo., a year or so ago, had a subject that should have been of tremendous interest to many persons. A part of the book was about a fly that causes myiasis, a skin disease, in human beings, as well as in animals. Little had been known of its habits before that time. He had made an exhaustive study of the insect. He was an authority on the subject. But to date his book has sold less than 1,000 copies.

Why was this? Because, as he has come to realize, he wrote the book for himself, not for his readers. He used scientific terms without bothering to explain them in words that a layman could understand. He chose the many-syllabled words rather than the short, direct words. He neglected

[1] Numbers in italics in parentheses refer to Literature Cited, page 128.

to break up his paragraphs. His sentences were long and involved. So today, the book gathers dust on library shelves.

Economists Need To Write Effectively

If effective writing is important to physical scientists, it is doubly so to economists and other social scientists. But we are concerned here only with economics. Economics is less exact than the physical sciences. Economists must often reason from inadequate data; must depend to a considerable extent on logic.

The very nature of economics places an ethical obligation on economists to use the resources of communication more efficiently than others. Economics has to do with the maximum utilization of resources. The findings of agricultural economists are intended to be applied, to be used by farmers and those who work either directly or indirectly with farmers. How and to what extent they will be applied depends upon how effectively they are presented. If the results of a project or a study made by an economist or by several economists working together are not presented clearly and effectively, the value of the study is largely lost.

In Marshall's definition (*10*), "economics is a study of mankind in the ordinary business of life." To a large degree, each man is his own economist. No esoteric wall, therefore, separates economists from the criticisms of "practical" men. Whatever an economist writes must be clear or he is likely to be misunderstood or not even listened to.

Fred W. Decker, writing in Science (*1*), says, "Scientists can make a real contribution to the general public understanding of science by adopting more specific and understandable language. The language used should be understandable at least to the elements of society concerned with making decisions on the basis of such reports. . . ."

Mr. Decker is speaking of physical scientists, but his remarks apply equally to economists.

Economists and other social scientists are more dependent on effective writing than physical scientists. Geneticists may have new crops or new breeds of livestock to show for their labors. Agricultural engineers may invent new farm machines or improved types of farm buildings. It is only infrequently that research economists have tangible evidence other than written reports to show for their services.

What the house is to the builder, the painting to the artist, the model machine to the engineer, the written report is to the research economist. The younger research economist needs to write effectively in order to advance professionally. His writing is the yardstick by which his progress is measured, the index used by his colleagues in appraising his professional status. The older established economist must continue to write effectively if he is to retain his standing in his field.

An economist who has written little over a period of time is thought of as one who does not finish things. The one who turns out many mediocre reports and articles is considered energetic but careless, not a first-rate workman. A moderate but sustained output of high-quality writing will "win the most friends and influence the most people."

Why Writing Is a Research Tool

Why is writing a research tool? A little thought will bring the answer to this question. Writing of some kind begins with the first project statement and continues until the report that grows out of the project is published. Writing is a part of all phases of the research study. Project statements, annual reports, statements of progress, correspondence, and research notes, as well as the final manuscript for publication, constitute writing. Each of these kinds of writing serves a different purpose and is directed to a particular person or persons. The analytical process is influenced by each.

Good writing, then, is writing that communicates most effectively. This definition assumes something to communicate. It also assumes that some action, or lack of action, will be induced in the reader.

What Makes Good Writing?

What are the attributes of good writing? There is *style*, which is highly individual. Sir Arthur Quiller-Couch (*13*) says, "Essentially style resembles good manners. . . ." In many respects, style is a matter of personal preference. But successful communication means that attention must be paid also to the personal preferences of the readers, or rather, the potential readers.

For instance, there are expressions and forms of speech that are likely to antagonize readers. A

manuscript that is larded with such phrases as "In other words," "On the other hand," "It is interesting to note," makes editors, at least, see red. Let's take the statement, "It is interesting to note." It may be interesting to an author to note a certain fact, it's true, but how can he be certain that his readers will find it so? He would do better to let them be the judge. The phrase "In general" is much favored by economists. It has about as much meaning as the phrase, once popular but seldom heard or seen now, "in the final analysis." "On the other hand" is seldom needed. As for the phrase "In other words," if the matter has been explained once in clear, direct language, why use other and probably not as effective words to repeat the explanation? If it is additional explanation, the phrase is incorrect.

Phrases such as these are calculated to remove the "sparkle" from any manuscript. You may think that sparkle is to be found only in fiction or poetry—in "literary" writing. This is not the case. Sparkle is found in all kinds of writing. Without it, readers will begin to yawn before they have finished a page; they will toss the offending communication aside, and any "message" it may have contained will be nullified.

Let us look at the following brief passages from three different economists (*3*, *17*, *2*). Do they arouse your interest in the subject each has to treat? Notice the variation in style.

"This association of poverty with progress is the great enigma of our times. It is the central fact from which spring industrial, social, and political difficulties that perplex the world, and with which statesmanship and philanthropy and education grapple in vain. From it come the clouds that overhang the future of the most progressive and self-reliant nations. It is the riddle which the Sphinx of Fate puts to our civilization, and which not to answer is to be destroyed."

. . . . . .

"Is our marketing machinery too complicated? . . . This may seem complicated and mysterious. It is complicated, but it need not be mysterious. A watch is a complicated mechanism, but there is no great mystery about it. Few would object because a modern watch is more complicated than an hourglass or than a sundial—at least not if the watch runs well. Nor should we object to a complicated system of marketing if the parts are well coordinated."

. . . . . .

"It is told that such are the aerodynamics and wing-loading of the bumblebee that, in principle, it cannot fly. It does, and the knowledge that it defies the august authority of Isaac Newton and Orville Wright must keep the bee in constant fear of a crackup * * *.

". . . The present organization and management of this American economy are also in defiance of the rules—rules that derive their ultimate authority from men of such Newtonian stature as Bentham, Ricardo, and Adam Smith. Nevertheless it works and in the years since World War II quite brilliantly. . . ."

. . . . . .

Sparkle in writing means variety in vocabulary, phraseology, figures of speech, paragraphing, length of sentence, and in anything else that goes into writing. Variety in vocabulary doesn't mean using all the words of 3, 4, or more syllables the writer knows or can find in the dictionary.

The shortest, simplest words that will express the meaning intended are best. This doesn't mean that the longer words cannot be used. Often, they must be used. But they should be sprinkled throughout the manuscript, not shaken over it as with a salt shaker.

Writers would do well to remember that use of the third person passive can be abused. The direct statement is better—We did so and so rather than so and so was done. (But beware of *we* when only one writer is expressing himself. This is the prerogative of royalty and editors.) Use of the active voice also helps to weed out excess verbiage.

The precise word is better than the abstract word. Such general words as condition, situation, and position are usually excess. Instead of saying weather conditions, why not say weather? The meaning is the same.

Some writers apparently believe that participles are to be treated like charms on a bracelet. But this is not the case. Participles were never intended to dangle. For instance, "Having come of age, I took my son into partnership with me."

A participle, like an adjective, leans on the nearest noun for support and the following sentence suggests that the economist had just arisen from a meal of index numbers. "Arising from a misinterpretation of the index series, the economist appeared untroubled by the criticism."

Economists are inclined to endow ordinary words and phrases with special meanings. For instance, the word *income* as used by economists may refer to tangible goods as well as to cash income. The word *universe* used to delineate the area of an economic study is likely to startle laymen when they see it used in this way for the first

time. *Global* for *total* is more familiar in England than in the United States.

It is usually well to use the old tried and true words to express meanings. Economists are likely to look for the extraordinary words. It sometimes seems to editors that they spend a good deal of time searching the fine print at the bottom of the page in dictionaries to obtain the little-used word, the variant. Of course, they are not the only ones who do this. It is true also of physical scientists, other social scientists, and members of the legal profession. Members of any specialized profession tend to develop their own terminology.

Macroeconomics and *microeconomics* are terms that reflect a useful distinction. They are nice words to show that you have kept up with the times. But the small difference of one letter may lead to embarrassing errors in communication. As with stalactites and stalagmites, some readers are confused as to which is up and which is down.

The adjective *stochastic* implies the presence of a random variable; for example, *stochastic variation* is variation in which at least one of the elements is a random variable. The word was known in the 16th century but passed out of usage until recently revived. If a word of this kind must be used, it should be accompanied by an explanation until it is well known and can be found in a dictionary.

Economists are sometimes guilty of stating self-evident facts. More than once, truisms found in economic reports have led to facetiousness on the part of legislators and newspaper reporters.

Paragraphs that extend over a page or even half a page and sentences that run for 5 or 6 lines are also calculated to take the sparkle out of any manuscript. The piling up of nouns as modifiers, a practice that is popular with today's writers, sometimes reaches a point at which it is impossible to find the subject of the sentence. A look at newspaper headlines will verify this statement. The writer of headlines, however, has some excuse. He is allowed only so much space and must condense his headline until it fits that space. The writer of an article is not bound in this way.

When he begins a sentence with "Manufacturers order backlogs for durable goods," it takes the reader awhile to discover that manufacturers are not ordering logs but merely have unfilled orders on hand.

Brevity is usually all to the good, although it can be overdone. We have all heard the speaker who took an hour to say what he could easily have said—what he did say—in the first 15 minutes of his talk. The reader's reaction to an overdone report is much the same as the listener's reaction to a speaker of this kind. But the telegraphic style of writing that is in vogue in certain quarters does not lend itself to economic writing.

Writers on economics sometimes find it desirable to emphasize certain statements by repeating them. But a writer should be chary of repetition. It can be carried to excess. All editors have met manuscripts in which the writer makes a statement at the beginning of the paragraph. Three sentences down, the same thought appears. The words are twisted around, it's true. But the meaning is the same. These "sleepers" are often hard to detect. This is why so many editors have gray hair.

One difficulty that confronts the writer of economic reports is the seeming necessity of "hedging." Often, an economist does not feel that he can come right out and say that if so and so happens, the result will be thus and so. Instead, he says: "It is likely." "Probably." "It may." "It could." But hedging can be carried to excess and it offends some readers to the extent that they become vocal about it.

Frequently, rewording will avoid hedging. Take the sentence in a Demand and Price Situation report:

"Apparently businessmen are generally optimistic about their future sales prospects." This has been diluted to the point of uncertainty. Perhaps it means: "Businessmen are optimistic about sales prospects." One cannot be sure.

Sir Ernest Gowers (*5*) says, "It is wise not to begin to write until you are quite certain what you want to say. . . ."

This should not be interpreted as advice to put off writing to a later time. Of course, you will not begin to write until you have your ideas clarified. But the longer the task is put off, the harder it becomes. Certainly, none of you will be like the student in a writing course, who had come almost to the end of the semester without submitting so much as one sheet of manuscript. When the professor said, "Miss Blanc, it now lacks only 3 weeks until the end of the semester. At the beginning of the course, I asked each student to submit so many

thousand words, either in one long manuscript, or divided into several shorter pieces. Just what are your intentions with regard to meeting the requirements of this course?"

Miss Blanc thought a moment, then replied, "Well, I thought I *might* write a novel."

Let us suppose that you, an economist, have analyzed your material, know what you want to say, and are ready to begin your final report. The thing to do first is to decide on your audience. Are you writing the report for professional agricultural workers? For farmers? Or for whom? This decision will affect all phases of your writing. If the report is intended for professional workers, you can include theory, formulas, involved tables, footnotes, and so on. But if you expect farmers to read your report, it must be written simply with a minimum of theory, methods, and statistics included.

Let us suppose that you are writing a more or less technical report. A good way to begin is to make an outline, listing all your main heads and your subheads. The outline may be subject to change as you go along, but you will find it a big help.

The *organization* of your finished report will take some thought. Here is a suggested plan of organization. First, a preface or foreword that will contain acknowledgments; the contents; a brief readable summary (this is always written last); a few pages of introduction setting forth the problem and its background, and telling why and how the study upon which the report is based was made and for whom it is intended; the main points brought out in the study, followed by minor points, all with suitable headings. Your long technical descriptions of procedures and any tables that contain background statistics belong in an appendix.

Standards

Publishers usually set up certain standards for their writers to follow. These are the *conventions of uniformity* that facilitate reading and communication. True, many of them are arbitrary; they have no more real basis than has the right-hand rule of the road that we in the United States follow. But think how much confusion on the highways is avoided because of it. Certain other countries follow the left-hand rule. It is equally effective. The point is that it is uniform throughout the country, not just in certain cities or localities.

In the same way, uniform rules for writing prevent many mental collisions. Each magazine, each publisher, each organization, whether private or governmental, has its own preferences and its own rules. These preferences and rules cover a number of items.

(1) *Spelling.*—Economists are not expected to use Esperanto in their writing. However, there are certain accepted spellings that may vary, depending upon who is to issue the report or paper. For instance, in the Department of Agriculture, we use *aline*, instead of *align; percent* instead of *per cent; equaled* instead of *equalled; sirup* instead of *syrup*. We join sweet and potatoes to make sweetpotatoes. If your research manuscript is to be issued by a State experiment station or a professional journal, the practice in regard to these and other words may be just the opposite. Each issuing agency usually has something in the way of a manual to guide authors in this respect. In the Department of Agriculture, we use the United States Government Printing Office Style Manual first, and Webster's Unabridged next. That is, if we do not find the preferred spelling or compounding of a word in the manual, we use the first preference in the dictionary.

(2) *Statistical tables.*—Suppose each person who prepares tables for Agricultural Statistics, issued by the United States Department of Agriculture, or for the Statistical Abstract of the Department of Commerce, were to follow entirely his or her own ideas in setting them up. There would be no uniformity as to table titles, boxheads, stubs, or the way in which the figures are presented. Users of the tables would be likely to become confused. In one table, they might find totals in one place; in the next, the totals would be somewhere else. The title and boxheads of one might be clearly worded to reveal the data contained in the table, but readers might have trouble finding out what the next table is all about. Standards do help (*16*).

(3) *Footnotes.*—Footnotes, which have been described as "little dogs barking at the text," should be as brief and as few as possible. Writers often use material in footnotes that should be in text, and vice versa. Bibliographical footnotes should contain all pertinent information: Author's name, title, publisher and place, number of pages, and

date of issuance. Many hours are spent by people in editorial offices in checking such references. For some reason, whether in the jotting down of information by authors or in typing, bibliographical citations are peculiarly liable to error. Not infrequently, the author's name is misspelled; only a part of the title is given; or the date of publication is many years off—in one instance recalled, the wrong century was given.

In Department of Agriculture series of publications, bibliographical references to the number of seven or more are pulled out of footnotes and made into a Literature Cited List, with items numbered and referred to by number in text. This avoids repetition and also reduces the number of footnotes. Although this method is not popular with authors—most of them are convinced that readers dislike turning back to the list and prefer to have the citation on the same page as the reference—it has worked very well in Department publications.

(4) *Punctuation.*—Proper punctuation is important to the meaning of your sentences, but less rather than more punctuation is the modern way. Practices vary with issuing agencies, but writers will find helpful a handbook such as the College Handbook of Composition (*19*). In the Department, the GPO Style Manual is supplemented by this and other handbooks.

(5) *Numerals.*—Whether to use figures in text or to write out numerals is a moot question. Some issuing agencies do one way; some another. As listed in the GPO Style Manual, the rules are somewhat complicated. Some State agencies write out any numeral under 10 and use figures for 10 or above. Probably the best method to follow for numerals is to rely on your editor to put them in line with accepted usage for you.

(6) *Use of numbers or letters to set off main points.*—Setting off your main points and subordinate points with numbers or letters or a system that includes both is good practice, although, like any other good thing, it can be carried to excess. Setting off the points in this way emphasizes them and makes it easier for the reader, especially if you have many points, with subpoints and sub-subpoints.

(7) *Word usage.*—Certain words function best when they are used in certain ways. The word "amount," for instance, is best when it refers to money; the word "quantity" when it refers to bushels, pounds, or some other measure.

Economists sometimes overwork certain words. One of these is the word "determine." Most economic manuscripts are peppered with it. It is said that only God can determine. Man can ascertain, calculate, estimate, learn, find out, or what have you. Make use of synonyms. A small investment in a pocket thesaurus will be of help here.

Amy Cowing, of the Federal Extension Service, advises authors to go on a "which" hunt. It makes for smoothness of writing to weed out *which* when *that* would do as well. Very often, neither is needed.

Superlatives should be used sparingly or not at all. This is true of all adjectives and adverbs. They weaken your manuscript. To some economic writers, all the points they make are important or "extremely" important. But the effect on the reader of all these importants and extremely importants is unfortunate. He soon tires of seeing the words and wonders whether anything in the report really is important. If you present your points and discuss them in clear direct language, you need not call attention to their importance. The reader will see that for himself.

Sir Ernest Gowers (*5*) speaks of adverbial "dressing-gowns," and cites *unduly*, *relatively*, and *comparatively* as those most favored by writers. Too often, these dressing-gown adverbs are used when there is no standard of comparison.

How To Improve Your Writing

No matter how good your style of writing, it can be improved. One way to do this is by reading good literature. The Atlantic, Harper's, and the Saturday Review are three of the magazines that come to mind in this connection. There are many books that might be read for this purpose. Different authors will appeal to different economists.

One of the most beautifully written pieces that we have seen is the editorial that the late William Allen White (*18*) wrote for the Emporia Gazette the day after the funeral of his daughter, a girl of 17 who was killed when the branch of a tree brushed her from her horse. This editorial has been reprinted many times. Most editorial pages are rewarding reading though one may disagree with the content. The quality of writing is usually high.

A second way to improve your style is to rewrite your manuscript. Many economists appear to have a compulsion against rewriting. They would rather tinker with and patch up a first draft than make a clean rewrite. As a result, many basically good articles and studies ultimately appear in a literary garb that is unworthy of their economic content.

It is said that Tolstoi rewrote "War and Peace" (*15*) seven times. Ellen Glasgow says in "The Woman Within" (*4*) that she always wrote three drafts of her books.

Your colleagues will review your manuscript from the viewpoint of subject matter. Your editor will try to help you present your subject matter in the most effective way. Both colleagues and editor may suggest rewriting of certain parts or all of your manuscript. Do not take these suggestions amiss. Welcome their comments. You, as the writer, are often too close to your work to see its drawbacks unless they are pointed out to you by a disinterested reviewer.

The opening paragraph of a manuscript may set the tone and pace for the whole report. See how this is done in the following two examples (*9, 7*):

"Nowhere is the contrast more striking than it is in England between the great industrial towns of the present time, humming with factories and black with smoke, and the quiet small towns of the past, where artisans and merchants went leisurely about their business."

. . . . . .

"Money is one of those concepts which, like a teaspoon or an umbrella, but unlike an earthquake or a buttercup, are definable primarily by the use or purpose which they serve. The use or purpose of money is twofold: it provides a medium of exchange and a measure of value."

In the first of these examples, one is given an immediate impression of the meaning of the industrial revolution by the picture of contrast. This is the subject of the whole book. The second example begins a difficult text on monetary theory by speaking simply of teaspoons, umbrellas, earthquakes, and buttercups, and at the same time giving a definition of money.

Caroline B. Sherman (*14*), the first editor of this magazine, who set high standards for the writing of reports in the former Bureau of Agricultural Economics, says:

"A slow-moving, heavy-footed text may carry the patient reader through to valuable conclusions, but an alert, quick style, if not overdone, will carry both the patient and the impatient on to conclusions which can be just as sound and valuable as those reached by plodding processes."

The ideas in your manuscript should be bound together so closely that readers can easily follow the progress of your thought from paragraph to paragraph. Often, you will find a transitional sentence useful. Sometimes a transitional word or phrase at the beginning of the paragraph will be sufficient.

A good way to improve your manuscript is to look at the first sentence of the first paragraph. Is it written as well as it might be written? If not, what can you do about it? What about the second sentence? By the time you have rewritten the first 2 or 3 paragraphs, you will be interested in going further, in trying to improve the whole manuscript. And you will find that the more you write, the easier you will find it.

By the time you have reached the end, you will find a way of concluding your discussion with an effective statement.

Guides for Writers

Many guides are available to help writers. This brief list may be of use. Several of the items cited were mentioned previously.

THE GOVERNMENT PRINTING OFFICE STYLE MANUAL. January 1953. (May be obtained from the Superintendent of Documents, U. S. Government Printing Office, Washington 25, D. C. Price $2.75, paper edition, abridged, $1.25.)

WEBSTER'S UNABRIDGED DICTIONARY or FUNK AND WAGNALLS or any good unabridged dictionary.

PLAIN WORDS: THEIR ABC, by Sir Ernest Gowers, New York, Alfred A. Knopf. 1955.

COLLEGE HANDBOOK OF COMPOSITION, by Edwin C. Woolley, Franklin W. Scott, and Frederick Bracher. Ed. 5. Boston, D. C. Heath & Co. 1955.

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ROGET'S POCKET THESAURUS . . . New York, Pocket Books, Inc. 1946.

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PREPARING STATISTICAL TABLES FOR PUBLICATION, by Viola E. Culbertson and Marguerite L. Higgins, U. S. Dept. Agr. Agriculture Handbook No. 121. April 1957.

Of course, you are not trying to make an economic report into a literary effort. You are trying to present in clear and direct language the research

material you have. In doing so, however, you may find that you have produced an article or report that will be what we in the Department of Agriculture refer to as a "best seller." This will not be entirely because of the subject matter of the report or article. The quality of your writing will help to make it so. Make no mistake about that.

For, as Harry E. Neal (*11*) has said, ". . . The writer is an artist who works with words instead of paints, and the words he chooses and the manner in which they are used make his creation good or bad. . . ."

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