

The Principle of Consistency and the Conditions for Creativity

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Summary

Human progress depends on a balance of creativity and consistency, of innovation and standardization. This essay investigates the role of each in engineering and documentation, and proposes the basis by which we may make decisions as to what to keep relatively consistent and what to be creative about in communication. These ideas are then applied to aspects of the Information Mapping methodology.

One of the important Information Mapping principles is the Principle of Consistency. It says, quite simply: Do it the same way every time. But some people object. They say, "This keeps me from being creative with my writing. Creativity demands that my writing be unique and different, that it express me." This conflict of values requires distinctions to see if the principles of consistency and creativity can be reconciled.

The Realm of Creativity and Functional Communication

I will not belabor the creativity side. Books, articles and courses that praise, explain and teach creativity can be found everywhere. Creativity needs no defense. It is a very important value for all of us. It can be expressed and will bring light and new energy to the most noble as well as to the most mundane of human affairs. But certain aspects of consistency need more explanation and advocacy.

The first important distinction is What realm are we talking about? There should be no disagreement that poetry, stories, essays, novels, plays, journalism, newsletters and the like are the supreme domain of creativity. I would suggest that there is a realm of what can be called "functional communication," where the primary job is information transfer. It is the domain of business, administration, technology, and much of science and law. In these areas the writer's purpose is not so much to entertain, please, express, or convey emotion as it is to explain, to describe, and to reason. I believe that this is the realm where the Principle of Consistency is most relevant.

If you can agree with me this far, I would concede that even in the realm of functional communication, we need creativity, for the ability to describe the unique, for the right metaphor or analogy, for the occasional unusual image that conveys the scope of communication. But this creativity should have certain limits.

Let us look at the function of consistency that makes human communication possible at all. Suppose I had written the title of this article: The kalagash of zipfogm and the portocks of bipple. Would you understand what I mean? Would you read on? Suppose the first paragraph contained just as many new words. You would likely stop reading. But I could argue I am just being creative. I am merely coining new words. But you would argue that I am hindering communication, particularly if I happened trying to teach

you how to use a new piece of software—or a nuclear plant. Therefore, as human communicators, we have an ongoing agreement not to make up new words unless absolutely necessary—so that we can communicate more efficiently and effectively, not to mention perhaps more safely. This is the most basic application of the principle of consistency. We have to be consistent about what words we use and how we use them, otherwise we are in deep trouble.

I hope we can now go on to agree that words should by and large be spelled in the same way and that meaning of punctuation marks has to be agreed upon. We also probably can agree that grammar requires consistency as well, as does certain kinds of usage. These are all agreements based on the principle of consistency.

Now, in the realm of functional communication—that in which documentation engineering takes place—I believe the evidence shows we need further consistencies. I have argued elsewhere that the documentation that accompanies a piece of equipment or software is a part of the product—and too often the worst part of the product. (Horn, 1986). Procedures and policies for how to operate in business situations and training materials for how to do particular tasks are part of this realm of functional communication—and all require further application of the Principle of Consistency.

The Role of Standardization in Engineering

Engineers have known for a long time about efficiencies, safety, and quality control that results from the standardization of parts. National standards organizations exist in most industrial nations. The U.S. has a government agency, The Bureau of National Standards, that coordinates much research and development in standards for engineering, science, and technology. And there are international organizations as well. In many ways, the idea of standardization permitted the rapid growth of the industrial revolution.

According to Verman (1973), the aims of standardization may be listed as follows: “(1) To achieve maximum overall economy in terms of:

(a) cost

(b) human effort and

(c) conservation of essential materials

(2) To ensure maximum convenience in use. It is this objective of standardization which leads to simplification, rationalization, interchangeability of parts and freezing of dimensions of components. Increased productivity, elimination of unnecessary waste, and reduction of inventories are the consequential benefits.

(3) To adopt the best possible solutions to recurring problems consistent with (1) and (2) above and taking into account all of the available scientific knowledge and up-to-date technological developments...

(4) To define requisite levels of quality in such a manner that practical evaluation of quality and its attainment are consistent with (1) and (2) above. This aim leads to the standardization of sampling procedures, test methods, grading schemes and quality specifications in general.”

Alfred Spector and David Gifford (1986) compared designing bridges with computer systems design. They said: “Engineers have been designing bridges and other complex structures for millenia. Civil engineering...has well-developed designs, procedures, and tools at its disposal. Bridges rarely fall down. In contrast, computer systems design is one of the least classical of the engineering disciplines, and its products are often poorly understood, unmanageably complex, and unreliable. Though some computer systems are more complex than even the largest bridges, there is a wealth of experience and insight in the older discipline that can be of use to computer systems designers, particularly in such areas as specification, standardization, and reliability.” We can apply similar conclusions to documentation engineering, an even newer discipline.

Consistency Required

Let us look at some of the places that consistency is needed in documentation. For quick retrieval, people need a chunking and labelling system in their documents that permits them to swiftly pick out what they need. This requires consistency. The consistency has to focus on providing an overall framework and on making sure the label for the same time of information reads the same way. If you were to call “definitions” by ten different words, or even two, you create difficulties that decrease efficiency and effectiveness of scanning and access.

Once the reader finds what appears to be the information they want, we must consistently provide it to them. You can't put all kinds of other information in a block labelled “definition” without giving the reader more trouble, more static in the communication channel. (Burns, et. al, 1986, Swarts, Flower, and Hayes, 1980)

For on-line documents the importance of consistency is even greater, because the reader can not see what else is there. So the reader's reliance on the consistency of the overall organization and content integrity is enormous. (Tullis, 1983; Hartley and Jonassen, 1985)

Many readers may not read the whole document. They are only looking for what they needs. Nothing more. They need to know that the information is divided into units that supply all of what they need. And they need to feel certain that his principle is applied consistently throughout the document.

Users are often under stress. They are in a hurry. They need to use the information now. They are not there to appreciate the writer's effort in making the manual beautiful or unique. They want reliability. And they don't want to waste their time worrying about whether they can count on the whole document to be consistent in form, content, organization, and labelling. They want performance from the document, not entertainment. For that reason, such items as format, tables of content, indexes all need important consistent aspects.

Efficient quality control requires consistency as well. When you are managing the reliability, quality, and cost of large documents, you need to be able to assure that all of the information has been collected. (Horn, 1986) For all these reasons, then, the use of

the consistency principle in the construction of Maps and Blocks in the Information Mapping method is important. (Horn, 1976)

Not Rote Applications

But the principle of consistency can be overdone, particularly when it is applied without understanding. A difficulty that sometimes occurs is the rote application of part of our methodology or the robot-like application of some tool without careful thought. The Information Mapping method is not a plug-in method.

The method provides well thought-out, carefully researched guidelines, principles, and rules. It does not provide laws. We have seen attempts of partially trained writers to apply guidelines and rules where they should not be used. Some of the misguided have even tried to lift whole tables of content without revision from one manual to the next! Some people have forgotten to do a careful user analysis and thus provide the wrong manual to the wrong audience at the wrong level with the wrong content.

Nearly every skilled practitioner of the Information Mapping method approach has seen a block which obviously has had much miscellaneous information crammed into it. It is not carefully analyzed information. It is undigested stuff forced into a rigid box. That is neither creative, nor consistent. It can't even be considered Information Mapping.

Impact on analysts, writers, and editors

What does this mean for the analyst, the writer, and editor of these documents? It means that they have an extra job. They have to read the whole document to make sure that it conforms to the standards that readers need in order to do their jobs efficiently and effectively. They also, in some sense, have to endure more "sameness" than the readers, because the readers may not ever see the whole document, but the writers and editors surely do.

Conclusion

One international authority, quoted by Verman (1973), sums up the argument for consistency: "Standardization is the process by which systems and values are established in individual, group and social life by natural evolution, custom, authority or common consent which, by remaining (or being kept) invariable over a period of time in a changing environment of unlimited modality, provide the stable basis essential for the growth and attainment of : (a) social or group identity and survival, (b) communication, understanding and exchange of ideas, goods and services between individuals and groups, (c) knowledge and experience for further development, and (d) consolidation of social, economic, and technological attainments at any point of time so as to release creative energy for the search of higher and better values and systems." (p.23)

Creativity is responsible for innovation in ideas and products. Consistency is responsible for widespread use of ideas and products. What is important is to use each for its proper purposes.

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