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Naming fish: A problem exploration

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ABSTRACT

There is a lack of perception of the interrelatedness of the three fish-naming systems: the scientific, the common, and the folk naming systems. Ichthyologists and regulators of fish names do not sufficiently appreciate the motivations and intricacies of folk naming systems or problems of professional and commercial use of names. At the common name level, there seems to be little exchange of information concerning problems and solutions, objectives, and procedures. Also, communities and networks that use the same language(s) seek different solutions to the same or equivalent naming problems. The authors list some common problems and offer a tentative classification. (Taxonomy, naming, language planning, fisheries)

INTRODUCTION

This research developed out of an East-West Center project on “language for international communication” which sought to describe and explain how individuals and organizations cope with language problems related to use of languages in international settings. One aspect of this project has focused on classifying and describing language problems in fisheries.

Fisheries offer a rich field for the study of language problems. It is international in scope, utilizes a number of languages, is geographically diverse, and is economically important. It requires cooperative communication networks at many levels. These networks have sometimes been articulated as international organizations, for example, the Inter-American Tropical Tuna Commission or the International Council for the Exploration of the Sea. Project studies have focused on fish naming since this aspect of fisheries is of interest to all those involved in fishing, and since it is also explicitly attended to by organizational networks on international, regional, and national levels.

An example of a fish-naming problem is how can laws, treaties, and regulations refer effectively to different kinds and sizes of, say, “tuna” when each speech community has its own system of names (in each its own language), and how can laws, and so on, be effective in referring to a specific species when there exist both scientific and many different common names for the “same” fish in

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the use of international and other languages? And (Klawe 1977, 1978; Joseph, Klawe, & Murphy 1979) how can organizations deal effectively with the problem of giving and agreeing on names for fish?

Fisheries also provide an opportunity to explore a particular perspective on the sociolinguistic makeup of the world. The need to communicate about fish cuts across geographical, political, social, and linguistic boundaries, and an adequate understanding of the activity of talking about fish cannot be derived from a sociolinguistic description focused on a single community or a single language. It is perhaps only from a perception of the terminology of fisheries as a language problem, and as a subject for language planning, that this particular world view is able to emerge.

PURPOSE

Although we can easily identify a large number of lists of fish and fish names (e.g., Gosline & Brock 1960), there is available only very scanty information on personnel, process of compilation, or the reasons for which these lists were compiled. Also, little explicit attention appears to be given to the *process* of dealing with the issue of fish naming. Although we found that there exists a highly structured correction system for the naming of fish, we would find that we require other sources of data in order to answer our research questions:

- who are the people and organizations that engage in this kind of work?
- why do they engage in it?
- how do they do what they do?
- toward what ends?

Even the textbook literature on fisheries (e.g., Royce 1972) are apparently mostly satisfied with referring to the International Commission on Zoological Nomenclature's work and with giving one or two examples of naming problems or with working out a case study in the field of taxonomy.

PROCEDURE

We addressed an inquiry to a range of different organizations around the world, using a mailed questionnaire and interviews. We sent a letter-questionnaire (see Appendix) to the following kinds of organizations:

1. all national standardization agencies (as listed in Krommer-Benz 1977)
2. all language planning agencies at all likely to deal with our topic listed in Krommer-Benz's global directory (1977)
3. all U.S. governmental organizations and agencies concerned with fisheries (from Coffey 1978)
4. a wide range of U.S. profit or nonprofit, private organizations servicing fisheries (also according to Coffey 1978)

NAMING FISH: A PROBLEM EXPLORATION

We used a letter format with open-ended questions because we wanted to validate fish naming as a legitimate area of problem exploration. We explain this aim to the addressees. The questions in the letter essentially reproduce the research questions just stated. We sent out about 250 letters in 1980. We estimate the response rate at approximately 40 percent. About one-third of the just over 100 respondents are currently engaged in fish naming.

In Hawaii and Australia, we did not mail a questionnaire but contacted representatives of fisheries organizations directly for interviews. We met with twenty-five people at seventeen organizations, covering the same questions as in the letter. The people contacted represented a number of professional, governmental, and private organizations and ranged in their professions from taxonomists to curators to aquarists to biologists. Although the interviews are fewer in number than the responses to the letter-questionnaire, they play a valuable role in our investigation because they represent a broadening of the range of respondents. Not only do they extend the types of contact we have made, but they also offer a perspective, from within the fisheries field, on the responses we received to our letter.

The results of the interviews provided confirmation of the results of the questionnaire and yielded some additional points.

RESULTS

The three systems

We found that it is convenient to distinguish three systems of fish naming, namely a scientific system, a common system, and a folk system.

The *scientific system* of fish naming is international in scope because it aims at the universal classification and naming of all fishes. Its outcome is a description of the definitive physical properties of each species of fish, the relationship of that species to all other species by those properties, and a definitive name – the scientific name – for the species. This name identifies the species, so should also reflect the relationship of that species to other species in the taxonomy. A very rigorous set of rules is loyally adhered to by ichthyologists both in regard to the classification of the physical properties and in regard to principles of naming (in the code of the International Commission on Zoological Nomenclature). Typical examples of an ichthyological taxonomic statement can be found in, for example, articles in the journal *Systematic Zoology* or in Food and Agricultural Organization of the United Nations (hereafter, FAO) (1978, 1980).

The *common system* of fish naming refers to the function of names in economic transactions concerning the production of fish as a food source, the processing, packaging, handling, marketing, consumer education, and consumption of fish. It also refers to the inspection of catches, to the compilation of statistics

on catches, and to the regulation of fisheries transactions by government agencies and in international trading, and to the taxation of fisheries transactions. Both national and international agencies, private as well as governmental, deal with fish naming here. One example is the attempt to standardize common names in English and Japanese by the International North Pacific Fisheries Commission, established by convention between Canada, Japan, and the United States. Another example is the work of the U.S. Food and Drug Administration in adjudicating disputes concerning names of fish.

The *folk system* of fish naming refers to common folks' use of language in referring to fish within their immediate environment. In the sense that we give it, it is necessarily local in scope, for instance, the individual vessel, the village. The folk system is characterized by immense variation. But it is an empirical fact that there are well-motivated local (or otherwise founded) fish-name systems; by geographic region, between competing groups of fishermen, by ethnic group, by language, by genre, by situation of speaking, that is to say, according to parameters of sociolinguistic description of speech variation. In literature, products that belong to the folk system are anglers' guides and sport-fishing guide books, skin divers' fish identification charts, home reference books on local reef fish, cook-books, and so on.

There is an international dimension that cuts across these three systems. Some examples are translations between languages, information exchanges across languages, data files across agencies and perhaps across nations, and foremost amongst them all, the FAO global inventory and attempt at standardization of names in their species identification loose-leaf volumes.

Language problems

Problems arise internally to the scientific system and also in its use as a reference system for the other systems. With regard to the former, ichthyologists may disagree on the appropriateness of particular names, on principles for giving names, and even on the taxonomic base to which the names are attached and that the names reflect. With regard to the latter, we have recorded how the scientific naming system may not in fact be as clear and stable as some people would have it. The scientific taxonomy undergoes constant revision necessarily accompanied by equally constant revision of the scientific names that express it and reshuffling of the so-called synonymy. Occasionally, the principles of the system are revised.

This intricacy of the scientific naming system prevents access to it by people outside the ichthyological, taxonomical profession. The fact that it is promoted as a firm universal reference base for people outside the profession only compounds the problem.

As concerns problems in the common system, two reports (Farrell 1972 and Smith n.d.) discuss the functions of names of fish and of fish products in national and international commerce. The following extract from the Federal Register

(June 13, 1974) on the nomenclature of fish and shellfish and their products for purposes of marketing brings the commercial problems into sharp focus:

1. There is an increasing interest in using underutilized fishery resources which have not been heretofore generally marketed and for which no common names exist that are familiar to U.S. consumers.
2. Thousands of marine food species carry taxonomically accurate scientific names, but many species are known under various common names in different locations. This causes consumer confusion in the marketplace and orderly marketing and market development is thwarted and frustrated.
3. The marketability of many nutritious species with aesthetically objectionable common or local names is severely limited substantially due to the name itself.
4. New food processing techniques present opportunities for engineering new fishery products for which names or precedents for naming do not exist . . .

Three facets of the current problem of fish nomenclature were identified repeatedly:

- (i) Many nutritious species have unaesthetic traditional names that limit utilization.
 - (ii) A continuing supply of fishery products dictates using these species.
 - (iii) Changing food habits and product forms will accommodate use of these species if they are appropriately named.
5. Consumer needs were recognized as important because:
- (i) Aesthetic labeling is necessary.
 - (ii) Truthful labeling is necessary.
 - (iii) Appropriate product representation is necessary.

Specifically, language factors in name usage that cause problems are:

- there is no name for a particular species of fish
 - no common names exist that are sufficiently familiar to consumers
 - invented common names (e.g., that designate species that do not belong to the fauna in the region of most speakers of that language) are regarded as inappropriate or lack acceptance
 - what species does a name stand for? (This can be paraphrased in the question: What's in a name? For instance, what is *tuna*?)
 - each species has several vernacular names
 - the same name is used for different species
 - for the "same" language, speakers in different regions use different names:
- This is an international problem of the highest order in regard to international languages and languages of wider communication (English, French, Spanish, . . .)
- different groups of people in the same place use different names, for instance, consumers and fishermen differ in usage
 - different crossreferencing of the three systems (of scientific names, the

various common names in the commercial system, and the folk system) occurs in different kinds of publications and in different parts of the world, that is to say, naming systems are correlated differently

- there is lack of consistency of name use in marketing
- there is lack of consistency over time in the use of names
- among consumers, there are different degrees of familiarity with names in what constitutes the marketing area
- marketing names differ from names that are more familiar to sports fishermen, biologists or others
- there are different names for different species, yet the names are too close, which might cause consumer confusion (e.g., *hake* and *flake*, *trevally* and *trevalla*)
- different segments of the fisheries industry feel threatened by competing products with similar names (e.g., *halibut* versus “Greenland *Halibut*,” a turbot)
- differential acceptance of the practice of linking names of relatively unknown species to more popular consumer species (e.g., *king crab* and *queen crab*, designated later as *snow crab*)
- a name may hold false promise to consumers (e.g., a new species on the market is sold under a name which is well established but the name refers to another species; a number of “flounders” are marketed in Australia that are in [taxonomical, genetically based] fact not flounders);
- some names may turn consumers off (be aesthetically objectionable, unattractive, from the point of view of marketing, for instance, *ratfish*, *mudblower*)

Systematization of the language problems

People need to be able to talk about fish. The scientific, Latin-based system is hard and cumbersome, so common names and folk names are absolutely essential. In the context of speaking, precision of the degree desired in taxonomy is not an issue. This represents a straightforward language problem of the widest generality. Perhaps we can refer to this as the *domain problem*.

People name fish in different languages. People speak different varieties in different places of what is regarded as the “same” language. This we can name the *language variation problem*.

Fish is sold and placed on dinner tables. Consumers need to know what they are buying, consumers need to have an idea of the taste. Fishermen and the fisheries industry wish to promote their products. Community agencies wish to mediate to forestall misinterpretations, deceit, and so on, to impose taxes and other regulations; or simply to keep statistics. All this we can refer to as the *commercial problem*.

Finally, people in different places exchange information about fish. And fish names occur incidentally in other communications. Problems of translation arise. This we can refer to as the *translation problem*.

Comparison of the three systems

The main distinction between the folk and common naming systems is that the latter seeks to define terms and to standardize nomenclatures. It seeks to reduce variation that is not regarded as “motivated” in the particular context of standardization, for instance, for purposes of reporting catches.

The scientific system has eliminated the translation problem by ruling that there shall be one and only one name for each species. The International Commission on Zoological Nomenclature authorizes a set of rules that makes a unitary naming system possible. It is not concerned with the commercial problem although it allows negotiation, for example, for the most aesthetically pleasing or most efficient name for a particular species. It exists to eliminate the variation problem and to express the precision required by the taxonomic structure – and that is the core problem of identity of species.

The common system displays great variation in regard to who does what to whom in terms of achieving the desired degree of common-name usage. It differs in regard to which and how many resources are available and in regard to degree of success. Commercial, educational, recreational, academic, legal, public administration, and other such networks differ in the degree to which they interact in and across nations and communities and in focus of attention on one or several species of marine life.

SUMMARY AND SIGNIFICANCE

Our exploration of language interaction that takes place between individuals and groups from different nations and cultures in the area of fisheries has uncovered a large number of language problems. These language problems directly affect cultural, social, political, and economic realities in the fisheries industry and beyond. Different fish names, different fish-naming systems, and also different terminologies for fisheries products create barriers, or are designed to bridge gaps, among fishermen, consumers, processors, scientists, information experts, government officials, language experts, and many others, as well as among intergovernmental organizations, national government agencies, profit enterprise, and professional associations.

As for the common-naming system, we are particularly concerned that there seems to be little exchange of information concerning problems and solutions, objectives, and procedures. We are also deeply concerned that different communities that use the same language or languages seek different solutions, whether knowingly or unknowingly, to the same or equivalent language problems. In an increasingly interdependent world of trade and information exchanges, this is at best inefficient. We specifically refer to differential standardization or listings of preferred common names in languages such as English, French, Spanish, and so on. FAO’s effort to select a single, preferred English name is commendable, but

what about the other international languages and languages of wider communication and what of intertranslatability with other standard languages? Difficulties rapidly multiply here. The American Fisheries Society list (1970) does not have the force of standard. Yet, it serves as an input of English equivalence in other countries' standardization efforts. With what consequences? And also we have examples of how international organizations coin new names for fish that meet with objection in the country of the most mother-tongue speakers of that language.

Different agencies may follow different principles of selecting preferred terms. Organizations draw on different regional usages as sources for preferred terms in the "same" language; and would it not be advantageous if equivalent principles were applied also to different languages? Consequences of differential usages in international languages and languages of wider communication, in particular, are likely to be severe for data banks and term banks that serve translators.

Parenthetically, terminology about names and nomenclatures of marine life are also highly variable. One international organization distinguishes between "prime common names" and "common alternatives" for an international language; another organization distinguishes between common names and commercial names – both different from folk names. This terminological confusion extends to terms for fisheries products. We have no evidence of systematic international cooperation in this regard other than, trivially, in the scientific naming system.

Some problems pertaining to our understanding and use of the folk system are:

- insufficient knowledge of vernacular fish names
- incorrect recording of vernacular names
- insufficient knowledge of structuring and motivation of vernacular fish-naming systems
- insufficient dissemination of vernacular names as a source of scientific names

We can summarize the problem of the folk system of fish naming as the lack of an ethno-ichthyology or, with different terms, the lack of an ethnography and linguistics and sociolinguistics of fish naming.

Taking a longer term perspective, our problem exploration has opened up a new area of interdisciplinary enquiry. This report indicates that there is a lack of perception of the interrelatedness of the different fish-naming systems. It has revealed a serious information gap. In our opinion, ichthyologists, standardizers, and regulators do not sufficiently appreciate the motivations and intricacies of folk naming systems or of professional language use patterns. Particularly at the common name level, dissemination of information does not seem to be very effective. Although some new ways of perceiving and thinking about the problems of fish naming in the context of fisheries have been proposed, lack of

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appreciation of cultural and linguistic factors and insufficient facts of current usage limit their applicability and chances for success. Some very interesting alternative approaches to alleviating fish-naming problems are emerging and require further research for review and dissemination.

It is our belief that an increased research effort and discussions between the many individuals and agencies that grapple with this problem area will lead to better policies and practical solutions. Such work – in which sociolinguists can help – will significantly contribute also to better understanding of language intervention by international agencies in international languages and languages of wider communication and particularly in regard to terminology and translation. Furthermore, it would help us understand how professional languages develop as a result of interaction in local, national, and international contexts.

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APPENDIX

The letter-questionnaire we sent out reads:

Dear Sir:

I am writing on behalf of myself and my colleague, Ms. Elizabeth Thuan. We are studying language problems and the correction of these language problems in the field of fisheries. We have chosen to concentrate our study on:

- 1) problems of giving the "right," "appropriate" names to fish,
- 2) on questions of knowing when and how to use the scientific, common etc. names for fish, and
- 3) on methods of inducing others to use these names effectively.

If, in the last five years, your organization has been involved directly or indirectly with names for fish and problems of use of names for fish, whether in order to standardize, to define principles, or to identify problems, we would be very grateful if you would answer the following questions:

- a) how was/is this work organized?
- b) who participated?
- c) to do what?
- d) for how long?
- e) for what purpose?
- f) with what intended or actual result?

We would greatly appreciate brief answers to all these admittedly broad questions as well as any materials or references to other institutions or individuals with an interest in these issues. We shall be glad to share our findings with you.

We deliberately have not formulated a more detailed questionnaire, hoping instead to benefit so much the more from your know-how through this "unstructured" approach, and leaving it to you to judge what we ought to be made aware of about organization, purposes, materials and outcomes, concerning fish names and fish naming.

We thank you in advance for your kind cooperation.