

APPEAL AGAINST IESG DECISIONS REGARDING THE DRAFT-IETF-LTRU-MATCHING

by J-F C. Morfin
16 August, 2006

Dear IESG Member,

I received the following mail: At 09:08 11/08/2006, Brian E Carpenter wrote:

The IESG has asked me to inform you that in our meeting on August 17, we will consider requesting the RFC Editor to expedite publication of draft-ietf-ltru-registry, draft-ietf-ltru-matching and draft-ietf-ltru-initial.

The reason is that Unicode wishes to refer to draft-ltru-registry in the forthcoming Unicode 5.0 standard within the next few weeks, and it cites the other two drafts.

I understand you may be considering an appeal against the approval of draft-ietf-ltru-matching. The appeal period of two months remains valid, but we would consider an appeal received by next Thursday as quickly as possible.

Please be aware that if an appeal were to be accepted after RFC publication, the RFC could not be withdrawn, but could be reclassified as Historic

I answered:

if this is a standard possibility for the IESG to expedite a publication I have no objection and will be glad to forward the text of the appeal. You will only pardon me if it is not fully polished. However, I was explained this was not possible when I suggested to expedite the RFC 3066 Bis publication to get it the # 4466. For everything to be clear [and to kill the suspicions this started] I raise the question to the RFC Editor.

I am just worried about one point, because I want to avoid any contention on a matter which is becoming contentious enough all over the place: let suppose I appeal, the IESG turns me down, and I appeal the IAB. Which delay would you grant me to forward the appeal to the IAB before expediting the publication process?

Brian Carpenter answered:

We regularly make expedited publication requests when another SDO has a normative dependency on an IETF document. This is not the RFC Editor's decision (but of course they tell us if it is materially impossible for them to execute the request).

This makes no difference to the two months appeal window, which is defined by RFC 2026. As I said, if an appeal against a published RFC is accepted, it could then be made Historic. This has never happened, as far as I know, but RFC publication is going much faster these days so it is now quite possible.

The RFC-Editor indicated: At 21:50 14/08/2006, Joyce Reynolds wrote:

1) Expedited process of documents for RFC publication is not encouraged for the reason you mentioned: "...one cannot expedite one particular RFC publishing process, by-passing and delaying all the others." However, if the IESG feels there is a just cause to expedite a document, the IESG must approve the request and inform the RFC Editor to expedite.

2) If a document has been approved by the IESG for publication, and an appeal has been logged against the document, the RFC Editor places the document in "IESG" state, pending resolution of the appeal. When the appeal via the IAB has been resolved, the RFC Editor will take direction from the IETF chair to publish.

I do not want the RFC cancelled. I want:

- the IESG to be equally fair and **open to competent input from any source** (RFC 3935) and therefore to support and provide interoperability at all the network linguistic layers (universalisation, lingualisation, globalization, and multilingualization).
- the IESG to **respect the RFC 3066 Bis** (ietf-languages@iana.org and Language Subtag Reviewer in line with all the ISO TC and UN code concerned).
- to **remove or document** (<http://bc47.org>) what inadvertently or purposely prevents or complicates interoperability between the IETF Internationalized and the Multilingual parts of the Internet.

As in RFC 3066 Bis case, appeals to the IESG and possibly to the IAB seem to be the only way to obtain the clarifications or corrections I was denied during the WG and IETF LC periods.

Hence, here is my appeal.

It is presented in two parts. An annex includes a text to illustrate the globalization/multilingualisation issue.

Part 1.

Appeal against the decision to consider a request to the RFC Editor to expedite the publication of draft-ietf-ltru-registry, draft-ietf-ltru-matching and draft-ietf-ltru-initial.

Considering this point would mean the IESG would consider privileging private interests on false premises.

1. The claim is that Unicode would like to quote the Drafts in the forthcoming Unicode 5.0. There could be two reasons for an RFC number that must be urgently issued to that end:

- **to consider that such a publication would make them authoritative.**

This is not the case: the WG has made sure - including against appeal - that the Drafts would be a BCP because BCPs are authoritative as soon as they are approved by the IESG.

The IANA has partly executed them (creating the registries) but has not yet initiated the ietf-languages@iana.org mailing list. The IESG has not yet selected its Language Subtag Reviewer to moderate that IANA mailing list.

- **to clearly identify the concerned documents.**

It has been underlined several times by their authors that the advantage of having the Drafts as a part of a BCP was the use of a BCP stable number rather than changing RFC numbers.

The project of the WG-LTRU new charter plans an RFC 3066ter to be introduced in the beginning of 2007, hence new RFC numbers for these very documents, which will have to be updated in hundreds of documents. Should Unicode quote these it should be strongly advised to refer to them by their "BCP47" name, as it was claimed to be a necessity to get a BCP status.

2. Unicode will hold its 30th Internationalization & Unicode Conference, on November 15-17. The two authors are key presenters there. I fully understand that having the Drafts published before that Conference would add to their commercial/professional aura. I have however, two ethical objections:
 - the request should have been presented on true grounds.
 - it would disfavour other IETF Members having authored other RFCs and that are equally longing for the same aura (cf. the RFC Editor).

3. I consider their proposition in competition with my organisation's doctrine and strategy (documented at http://www.intgovforum.org/Substantive_1st_IGF/e-mdrs-intro.pdf). It is also in the same situation with other propositions participating into the IGF or International Standardisation. For 18 months, they have manoeuvred to exclude the multilingualisation layer from the IETF doctrine and prevent interoperability at that layer. I made sure that RFC 3066 Bis was tuned enough in order to not prevent interoperability from the multilingualisation side, with the resulting PR-action they engaged to hamper that effort. I must spend time and effort to have the impact of their positions explained and documented (<http://bcp47.org> project). Expediting their RFC publication is an advantage given to them while we have not had the time to obtain, digest, discuss, and adequately present on the <http://bcp47.org> site as to how to interoperate their limited proposition (this appeal is a part of this effort, to obtain a clear, fair, and as complete as possible information on the resulting IETF doctrine).

I do not think the IESG should sponsor one doctrine over others, unless there is a public MoU as I suggest it. Should the IETF delegate Unicode its language doctrine, language issues, and IANA server, as it did with ICANN for names and numbers, the situation would be clearer.

I underline hereby that the concept of "**primary language**" in RFC 3066 Bis is **not** the one familiar to US citizens (ex. http://www.cmwf.org/publications/publications_show.htm?doc_id=221295). If it keeps its ethnic and racial ties, it has a negative connotation that makes it injurious and locally illegal. The resulting language divide that it would create is a direct violation of the equal linguistic Human Rights. I know the IETF is not concerned with Human Rights, but application implementers are.

appeal:

That the IESG does not consider expediting the publication of the concerned RFCs which are already authoritative as BCPs.

That the IESG advises Unicode and other SSDOs to use the BCP numbers to reference the BCP documents in order to keep their standard in tune with the IETF.

Part 2

Appeal against approving the draft-ietf-ltru-matching in its present form.

Due to the time constraints detailed above, this appeal is presented as follows.

- The points I presented during the IETF Last Call : at no margin
- The response given by the co-Chair **Martin Duërst** in his quality of private contributor : in italics. This response was supported by two short comments:
 - from **Mark Davis** (co-author): "I fully agree with Martin. Nice job."
 - from **John Cowan**: "Meta-comment: Well done (which is what Jefsey will be, too)"

I therefore take it as the only WG and authors' response to the IETF LC.

- my comments and appeal with an additional left margin.

Martin Duërst's response and my comments are interspersed for better comprehension. Appeals are summarised at the end of each section.

1. The proposition is not scalable

The proposed Draft is not about matching (it is absurd to say that my Italian can "match" your Japanese in order for us to understand each other better).

M.D. The matching draft of course makes sure that "ja" and "it" do not match. Nothing absurd happening there. Also, what the draft actually describes is matching language tags against language ranges; there are three matching variants, two for filtering and one for lookup.

I would be interested knowing how the Draft makes sure that "ja" and "it" do not match.

This would be absurd absurd to **me**. Not for my daughter who happens to live in Japan and is fluent in Italian. The intent is to help people and systems to select the appropriate language for their own use.

Anyway, the point is that the Draft is not about matching but about **filtering**:

by design

The text says "Two kinds of matching mechanisms, filtering and lookup, are defined. Filtering produces a (potentially empty) set of language tags, whereas lookup produces a single language tag".

by way of expected use

The use I expect to mostly see is to channel "extended language" speakers to "primary languages" sites and services. This will permit "supporting" 7.500 ISO 639-3 languages via the 128 languages currently supported by the Unicode CLDR (locale files) with the hope of drastically reducing the cost of the language support. This is an "e-colonization" practice (e-dominance of a language).

by declaration

The Draft says: "The document defines a syntax (called a language range (Section 2)) for specifying items in the user's list of language preferences (called a language priority list (Section 2.3)), as well as several schemes for **selecting** or **filtering** sets of language tags".

It is about using pattern matching techniques in order to filter lists against a langtag with two results (max one answer, no max) and in two cases (well formed langtag or not). However, the wording is such that without examples it is difficult to understand the specifications of the pattern matching function that is being used - and therefore the possible applications and the purpose of the Draft.

M.D. Some of the matching procedures indeed have to be read carefully. But the WG made every attempt to describe them carefully, going through several iterations. And we provide examples, too.

The main applications envisioned by the draft are described in the draft, they are things such as selection of documents (e.g. when searching) or document pieces (e.g. for styling) in the case of filtering and finding the best match to return documents or document fragments in the case of lookup (the prototypical example being HTTP language negotiation).

The readability of the document may depend on the readers. The problem is that the logic being used is not common. This means that a casual reader or even a careful reader that does not intuitively adhere to that specific logic will meet difficulties.

The algorithm of this function is undocumented and there is no obligation to document it, what may lead to blocking conflicts if two filters may have to interoperate. This proposition is NOT scalable and does not intent to be scalable.

M.D. As for conflicting filters, there is no requirement that two filters (e.g. in two different protocols)

produce exactly the same result. Different protocols may have different needs. That's why the draft leaves some specifics for a particular protocol to be decided.

Filtering conflicts

This is incorrect. Protocols are NOT specified. I consider conflicting filters in the same protocol, the same environment. There is nothing to prevent them, except the feeling of the authors that their libraries will be exclusive on the market.

My problem is that I come with/from different systems. I must consider the interoperability. There are as many possible forms of "interoperability" as developers and different systems to interoperate. Interoperation may work one to one under certain conditions (the first one being stability). It cannot work in the long-term among all the existing systems and visions.

Algorithm

The lack of a defined algorithm is not addressed.

This is in contradiction with the WG-LTRU charter, which says: "The second document will describe matching algorithms for use with language tags. Language tags are used in a broad variety of contexts and it is not expected that any single matching algorithm will fit all needs. Developing a small set of common matching algorithms does seem likely to contribute to interoperability, however, as it seems likely that using protocols could reference these well-known algorithms in their specifications."

The different protocols needs are specifically considered in the charter as a reason why there is a need to specify algorithms, not to not specify algorithm.

As a result, I do not see anything in comment 1. that would need addressing in the current draft.

appeal:

That security considerations outline that there is no requirement that two compliant filters produce the same result because no algorithm is provided on a protocol basis. It should also be noted that the Draft does not propose any form of "normalization" to address the resulting risks.

2. Contradiction with RFC 3066 Bis.

Either RFC 3066 Bis is well written (what I think we achieved if strictly limited to the Internationalized ASCII Internet) and well applied (what I can see that it is not the case: the review mechanism does not respect RFC 3066 Bis) and the filtering is already built-in, and the functional strategies are to be specific to applications and protocols. Or that Draft, which does not seek to first ensure that langtags respect RFC 3066 Bis (i.e. being well formed or corrected in order to become well formed), is a negation of RFC 3066 Bis. I think that authors had filtering in mind (it was the apex of the first unique document) and did not realise that the work achieved in cleaning the first part made its correction by the second part not necessary any more.

M.D. The commenter seems to claim that draft-ietf-ltru-matching conflicts with draft-ietf-ltru-registry (here called RFC 3066bis) because the later defines well-formed tags while the former does not require well-formed tags.

Correct. If the considered Draft is not bound by the specifications of RFC 3066 Bis and by the WG-LTRU charter ("The second document will describe matching algorithms for use with language tags") there is no reason why this more general document would be associated with BCP 47.

That is if the whole purpose was not a non documented use of the filtering (users mass profiling).

M.D. The reason for not requiring checking for well-formed tags when matching was discussed extensively in the WG.

There is a very clear reason: requiring this would require to check the IANA language subtag registry, potentially for every matching operation, which was considered operationally infeasible. It would also be an unnecessary performance punishment for those who actually use well-formed tags.

This authorised and author supported comment fully confirms all of my positions against the RFC 3066 Bis solutions.

The WG-LTRU Charter (the co-Chairs refused to consider) specifies:

"It is expected to specify a mechanism for **easily identifying the role of each subtag in the language tag**, so that, for example, whenever a script code or country code is present in the tag it can be extracted, even **without access to a current version of the registry**. Such a mechanism would clearly distinguish between **well-formed** and valid language tags, to allow for maximal compatibility between implementations released at different times, and thus using different versions of the registry."

The WG/author's comment implies that:

- RFC 3066 Bis mechanism to distinguish well-formed and valid langtags **cannot function without checking the IANA language subtag registry**, potentially for every matching operation. The co-Chair and the author consider this to be operationally infeasible and a performance punishment for those who actually use well-formed tags.

As a result, their proposition is to treat those who actually use well-formed tags as if their tags were not well-formed. This seems incoherent.

- **however, this infeasible solution will be the one that users will have to resort to** when they want to use an algorithm telling them the language of the documents that they access (purpose of RFC 3066 Bis).

I was the first and only one to raise the problem of this infeasibility at the WG-LTRU. The eventual and only response I obtained was "we will do as for the Unicode files".

Missing information

The mechanism to check the language subtags of language tags need to be documented and updated. The size of the expected Language Registry after ISO 639-3 to be implemented is 840 pages. The number of entries leads one to believe that there would be one or several updates per week (recently documented by Peter Constable, ISO 639-3 author). This is over and beyond the possible resources of the IANA. Harald Alvestrand when discussing the IANA support by ICANN suggested to consider hosting the IANA language and others registries "somewhere else". I support "in another way", not by a single private or international entity (cf. IETF/IAB comment to the NTIA).

Non-addressed mass profiling issue

The mass profiling issue is not discussed. This refers to what I call "**retro-meta-spam**" or a "dynamic cookie". The langtag is sent to a user as an e-mail metadata that is unknown to the receiver. When replying to the mail, he/she sends back this metadata without knowing it. Without reading the mail, it is easy for a major mail service to identify the receiver as someone having the language of the langtag.

The interest of the language set, as defined through the IANA registry subtags as primary languages and extlangs is to limit the number of speaking classes when sorting mass

profiling information (market study, advertising campaign, search engines, and services) and selling profiled mailing lists.

M.D. In general, non-well-formed tags or ranges will simply not match anything, which is just fine.

If this is the case, the Draft is of no use. Since there is not RFC 3066 Bis verification of the well-formedness of a tag, every tag is considered as not well-formed.

This only denotes a lack of understanding of the proposed scheme. This scheme consists in checking a tag against a user defined value domain. RFC 3066 Bis Charter calls for two things:

- **well-formedness**: this has to do with respecting the ABNF.

- **validity**: this has to do with using valid subtags that must be checked against the IANA registry in the general RFC 3066 Bis case.

In the current document, validity checking is not against the IANA list but against the user's list which is local.

If it was not, the whole document can be written as "make sure langtags are well formed and feed them on the pattern matching function of your application/protocol to obtain the results it needs along your language management strategy".

*M.D. **The commenter is correct in that there is no absolute need for this draft**; each protocol or format could come up with it's own way of matching language tags. After all, RFC 3066bis defines how these tags are built, and (to a certain extent) what they mean.*

The response approved by the author and the WG now agree with the well-formedness possibilities. However, it still confuses the well-formedness and the validity context. The proposed draft permits to match tags that **do not contain** subtags listed in the registry (ex. private domain).

There is confusion. The Draft is not to filter non-well-formated tags to registered subtags. It is needed to filter well-formated tags to user chosen subtags. The IANA has nothing to do here.

M.D. However, I consider the current draft valuable because it helps protocol/format designers, who in general are not experts on language tags and language matching, to choose the right kind of matching scheme. Also, one matching scheme was already described in RFC 3066, and so it would be difficult to obsolete RFC 3066 without this draft.

This lead one to think that the reason why this Draft was produced is to correct lacks in RFC 3066 that RFC 3066 Bis also was to correct. WG-LTRU Charter says:

"Since the publication of RFC 3066, however, several issues have faced implementors of language tags: []

* Lack of parseability and the ability to verify well-formedness.

* Lack of specified algorithms, apart from pure prefix matching, for operations on language tags."

This seems to be why the Draft restores the lacks of RFC 3066 (not checking they are well-formed) in order to deal with them in a different (and possibly conflicting ways), permitting different algorithms (but not specifying them) and not considering any normalisation process.

I therefore don't see any change that would be needed in the current draft to address comment 2.

appeal :

- The document should be replaced by the mention that filtering as per RFC 3066 is not necessary due to the RFC 3066 Bis improvements - as required by the WG-LTRU charter. If this was not the case RFC 3066 Bis should be reviewed.
- Security considerations should include the risk of IANA and network saturation should the users want to match langtags with a current copy of the IANA registry.
- The next year WG-LTRU's Charter should include the design of an update dissemination system for the language subtags information, to every Internet user and be able to support the checking of the current validity of every subtag. I proposed that such a system could copy the DNS system.

3. Additional constraints not documented in RFC 3066 Bis.

"" restrictions in the pattern matching function can hardly be understood without several examples. They add usage limitations to the RFC 3066 Bis format, where they should be documented, or the Draft cannot be part of BCP 47.

M.D. There are no restrictions on the use of "" in language ranges. There is a very specific treatment of "" wildcard components in language ranges for extended filtering. The actual algorithm in the draft is described carefully, and an explanation for why it is the way it is given. This matching algorithm does not add any usage limitations to RFC 3066bis. On the contrary, it was carefully designed to work well together with RFC 3066bis.

The foreseen specific work on this part could not be presented due to the imposed time constraint. However, the single mention that the wild card treatment is "very specific", while such a possible treatment is not mentioned in RFC 3066 Bis, means that additional conditions are involved.

The claim that it was carefully designed to work well with RFC 3066 Bis does not stand. RFC 3066 Bis was written and approved by the IESG when the filtering draft had not been discussed yet.

- RFC 3066 Bis supports private use tags. The current document says "Matching private-use tags using language ranges or extended language ranges can result in unpredictable content being returned", which is a restriction that not documented in RFC 3066 Bis.
- One easy to measure limitation is that the proposed matching does not permit to use wildcards in second or third character position in a subtag. There is no provision in RFC 3066 Bis that subtags cannot be built from common roots. For example, private use "qaa" to "qtz" ISO 639 defined language codes should either be able to be filtered as "qa*" to "qt*", or that limitation should be documented in RFC 3066 Bis.

This certainly belongs to the language constraining strategy of the WG-LTRU affinity group and to the interests a co-Chair recently documented. But this is unacceptable to most users, even if it is certainly favourable to a national strategy and to the members of a given consortium. I therefore submit that the IESG Members who are citizens of that nation, or members, or employees of the members of that commercial consortium have a COI.

M.D. I do not know of any concrete example where the matching behavior would be unacceptable. Any claims that it is "unacceptable to most users", are therefore, in my view, just made up out of thin air.

What is unacceptable to most users is the constraining doctrine adopted by RFC 3066 Bis and extended by this Draft. It results from the language divide created in discriminating

between primary and extended languages within the ISO standard lists which ignore such an injurious exclusion. This is plainly documented in RFC 3066 Bis Part 8.: "The document also anticipates features of ISO 639-3 with the addition of the extended language subtags". ISO 639-3 lists plainly equally respected and treated languages.

The WG comment implies that the main purpose of the text conforms to the IETF mission as described in RFC 3935 ("to influence the way people designs, use, and manage the Internet") in influencing developers that are supposed not to be familiar with langtags.

The added constraints are in line with the RFC 3066 Bis internationalization doctrine, i.e. a set of options in addition to the English lingualisation. The essence of an option is to introduced constraints when compared with generalisation (multilingualisation in this case).

M.D. Also, I have no idea what is meant by "language-constraining strategy". If anybody wanted to restrict the use of certain languages in certain parts of the Internet, they could easily already have done that based on RFC 3066, or could do based on RFC 3066bis, or even just based on statistical analysis of the actual content transmitted (with techniques such as trigrams).

This is a confuse response. The matter is not what some could do, but what the text says. In addition, what it adds to the limitations of RFC 3066. The language constraining strategy I refer to is not a strategy by implementers, but the strategy of the authors. RFC 3066 Bis says and how the current Draft is "**carefully designed to work well together with RFC 3066bis**":

- Part 3.3. "When the two week period has passed the Language Subtag Reviewer either forwards the request to iana@iana.org, or rejects it because of significant objections raised on the list or due to problems with **constraints in this document** (which should be explicitly cited).

- Part 6 "The extension mechanism provides a way for independent RFCs to define extensions to language tags. These extensions have a **very constrained**, well-defined structure to prevent extensions from interfering with implementations of language tags defined in this document. The document also anticipates features of ISO 639-3 with the addition of the extlang subtags.

The extlangs are in no way discussed by ISO 639 or anywhere. They imply limitation, divide, and therefore constraints **on their speakers**.

In practical terms,

- the current IANA registry supports **440** languages.
- the UNICODE CLDR project (locale files) supports **128** of them. In a public meeting, the former Language Tag reviewer indicated that one should add **10** of them.
- ISO 639-3 should include **7,500** language code elements
- ISO 639-6 and Linguasphere include **20,000** language entity code elements

This means the filtering draft is to document how users and texts of 20.000 languages communities, will be e-channelled, towards 150 main languages (with English as a default). This strategy is not detailed in RFC 3066 Bis, but this Draft tells how it will be done.

M.D. And certainly nobody who actually wanted to do such a thing would ask for an RFC or other kind of standard to try to legitimate such restrictions,

This is true. This is why the RFC 3066 Bis is not to legitimate such a policy, but:

- to implement it based on the de facto technical dominance of Unicode in the globalisation layer, through their de facto control on the IANA language registry.
- to confuse the IETF/IAB about the multilingualisation layer and to bar, ban, and exclude their competition.

The IETF debate has permitted the other co-Chair Randy Preshun to qualify what I have every reason to believe to be the present appeal as "another avenue for DoS attacks on the

process. No doubt some unscrupulous party is already contemplating this kind of attack on an extraordinarily innocuous BCP."

It is sad that a key issue for the IETF, the Internet, and the world be so lightly considered. However, if this Draft is "extraordinarily innocuous" by the judgement of the co-Chair of the WG which produced it, is it really worth to publish it as an RFC?

M.D. nor would I hope anybody would condone such behavior just because it would make use of an RFC.

I hope the IESG will agree with Martin Duërst here, and do not condone the use of the IANA registry and of the discussed Draft to impose an English globalization, protect private e-(English inside)-interests, and prevent multilingualisation. As the leader of research study on the dying language e-empowerment path, I am shocked by the policy approved by the IESG.

As a result, I don't think that anything needs to be done to address comments 3.

appeal:

The security section should underline the risks of domain loss for most of the languages due to the use of this proposed solution,

- from the server side

- as an alibi for not working on thousands of locale files, language interfaces, search engines, and the long list of work to achieve to e-empower a language and its culture.

(This does not reduce the interest of a user pattern matching of the list of the languages he/she is able to read)

4. Circumstances where the Draft is useful are not documented

All the above means that the Draft is useful in at least two circumstances:

- if the langtags are not well formed or do not respect the principles of ISO 639-4 and/or RFC 3066 Bis.
- if the langtags are used for other purposes that are undocumented at the WG-LTRU Charter.

These circumstances should be documented.

M.D. ISO 639-4 is still being worked on.

RFC 3066 Bis says: "The document also anticipates features of ISO 639-3 with the addition of the extended language subtags, as well as the possibility of other ISO 639 parts becoming useful for the formation of language tags in the future.

Simply put, it should be respected.

M.D. The possibility of using non-well formed tags is not something the draft is designed to do; it is just a consequence of not requiring checking for well-formedness (to avoid operational problems). The draft explicitly says that there is no need to check for well-formedness, so I don't see what would need to be documented further.

The Draft wants to be part of BCP 47, which is about well-formed langtags (this is one the reasons for updating RFC 3066 into RFC 3066 Bis). In discussing possibly non-well-formed langtags, the Draft would reduce its scope, not address the WG-LTRU Charter, and not answer the RFC 3066 Bis users' expectations.

However, the WG response is inexact. The authors do this on purpose, and not for the

reason the co-Chair believes.

The Draft says: "Applications, protocols, or specifications that use language identifiers, **such as** the language tags defined in [RFC3066bis], sometimes need to match language tags to a user's language preferences. This document defines a syntax (called a language range (Section 2)) for specifying items in the user's list of language preferences (called a language priority list (Section 2.3)), as well as several schemes for selecting or filtering sets of language tags by comparing the language tags to the user's preferences" (we know that that language tags are not well-formed RFC 3066 Bis language tags).

M.D. The draft, like most IETF work, mentions possible uses of the technology, in particular as examples to explain design decisions or choices of options for the users (in the case of the draft, the direct users are protocols and formats). Any attempt to describe any and all possible uses for a technology invariably fail, and so shouldn't be attempted in the first place.

The Draft fails on a major technical point in not documenting the difference between using it to channel a user (case of a host) or to select a document (case of a user). There would be pages to write on the matter. One point is particularly important in terms of matching: the split implied by the RFC 3066 Bis between primary and extended languages can be disagreed upon by speakers having an "IETF extended language" as a "primary language". This case is not discussed.

M.D. I therefore don't see any change that would be necessary based on comment 4.

appeal:

Use cases should be provided in a dedicated section. That section should present the pros and cons of using the Draft vs. using standard pattern matching and verified well-formed langtags, in each of the documented situations, for the three proposed filtering and look-up processes.

5. Key security considerations are missing

The security section should mention that this Draft encourages the disrespect of the RFC 3066 Bis format and further assists dangerous projects that the IETF has refused to mention in RFC 3066 Bis, such as:

- lingual, cultural, racial, and religious profiling through retro-meta-spam ("I know who you are through which langtags you are not aware that you respond to"),
- two-tier Internet based upon the lingual characteristics of the users and their supposed market value,
- lack of conformance to ISO 11179, which may lead
 - the IETF, stakeholders, and users to inadequate, costly, and delaying strategies
 - or to conflicts with the Multilingual Internet - as in the sad DoS against the leading economic language ("en-EU")
 - or to legal access bans by democratic or privacy oriented countries.

All of this lends itself to incentives for an Internet fragmentation.

M.D. As explained above, there is no disrespect for RFC 3066 bis formats, just operational considerations. Also, the draft does not assist any of the 'dangerous projects' mentioned above; any of these projects are, if some entity is determined to do them and has the necessary access, easily possible with various other means.

The BCP 47 corpus embodies the IETF language doctrine. The WG does not object that the possibility of these dangerous projects does exist. It objects that:

- if some entity is determined to do them and has the necessary access, it can do what the authors are doing. This is certainly true, but today there is no other entity involved, except my own working team. However, its purpose is to oppose these dangerous projects.

We accept that we might have different strategies towards the same target, but this is not what we have experienced.

- the Draft "does not assist" such projects. It certainly documents the tools that they can use, but it does not provide any other alternative tools, and it does not warn about the risks involved.

M.D. The problem that RFC 3066bis does not allow en-EU is a problem of RFC 3066bis, and may have to be addressed in a future revision, but does not affect the matching draft now in last call.

We all are aware of the major economic and industrial advantage resulting of a lack of en-EU/fr-EU/de-EU classification tag as a counter-part to en-US. It would be surprising that the world leading economic power would obey a detrimental inadequate reading of RFC 3066 Bis by the members of the authors' affinity group.

The Draft claims to be independent from RFC 3066 Bis well-formedness and of the IANA Registries "for operational reasons". It should document for "operational reasons" the way in which the real world langtags of the form "en-EU" will be filtered. This is even more worrying because the problem is not disregarded by the WG, and should be addressed in a future revision.

This is the most blatant example of an external bias. <http://bcp47.org> is to expose it through this appeal, and will quote the responses received. Not finding a solution to this problem would certainly engage the European governments and industry into an alternative to BCP 47, with all the resulting interoperability issues.

M.D. Again, I don't see anything here that would need to be changed in the current draft to address this comment.

appeal:

The draft should mention the risks involved in the use of its propositions and warn users against the way their legitimate developments or procedures based on them can be used, so they can build the necessary protections and word the correct legal disclaimers.

The Draft should mention problematic cases such as en-EU and provide guidelines for their resolution.

6. Interoperability concerns

As far as I understand, two Draft compliant filters may result in different responses for the same filtering list and document. My concern is the interoperability of the proposed BCP 47 with Multilingual Internet registries, tags, etc. This interoperability is not ensured and there is no prospect to see it insured as it is purposely ignored by authors. This represents no incentive for developers.

M.D. The three matching schemes described in the draft all come with a small number of options. In this sense, it is e.g. possible that two different protocols, having chosen different options, will lead to different results. An example would be an HTTP server serving a document in a different language than a corresponding FTP server (assuming somebody added language negotiation to FTP) for requests with the same language priority list. But as such a setup is highly fictional, and the two servers are configured separately anyway, having different results simply because of different configuration (rather than different language matching), or tweaking the configuration to make the results match, are both possible. So this kind of interoperability is not of importance in practice.

The WG response does not contest the problem. It documents it. It does not propose any normalisation solution. The sole comment is that having two files of different languages being delivered depending on the downloading user choice is of no importance in practice.

I will leave that conclusion to the judgement of the IESG.

I doubt that if this conclusion was reported on <http://bcp47.org> that users would be appealed.

M.D. Also, it is difficult to try to ensure interoperability with something called 'Multilingual Internet registries' when such a thing does neither exist on paper nor in practice.

I understand this point as "where are the Multilingual Internet registries in the same sense as the IETF Internationalized IANA Registries"?

This is an excellent question, which shows the whole difficulty of the WG-LTRU affinity group has in understanding the issue.

The Multilingual Internet by essence does not share the same mono/centralised paradigm as the IETF International Internet. The IETF vision is unilateral, in which the MI vision is multilateral.

This means that:

- since the WG-LTRU in charge of the IETF language doctrine they should be the ones defining what should be a stable IETF Multilingual Internet.

- they genuinely do not even understand what a Multilingual Internet might be, so they have real difficulties understanding what the discussed interoperability problems can be.

The Multilingual Internet should be first understood as being multilateral. This means that one should consider, discuss, and document lingual networks of the network of networks. This means that there is no Multilingual Internet IANA, in which there is a multiplicity of lingual registries, in different places that serve of referents to the diversity of all the lingual globalisations that form the multilingualisation.

The main problem of the current Multilingual Internet (we see it with China, with ML.ML, with keywords, with aliases, etc.) is precisely that not only does the IETF not provide it with an adequate common guidance, but provides it with a conflicting doctrine.

- **This was the case with the initial RFC 3066 Bis Draft.** I addressed most of the RFC 3066 Bis problems in making sure that the text was clear enough on the difficult points (WG made it to oppose what I requested). This permits the circumvention of most of the structural problems between any multilingualisation approach (where the various adaptations must be carried) and the IETF supported globalization vision.

However, the disrespect of the ietf-languages@iana.org related part by the IESG maintains an instability, that does not favour interoperability.

- **This is the case with the current Draft.** For example, since this Draft does not care about langtag well-formedness, there should therefore be no problem in using language langtags (in various language/scripts). This is neither documented nor permitted.

M.D. So there is nothing in comment 6 that would require any changes in the current draft.

appeal:

I accept that there is no way at this stage to change that BCP 47, which is only related to the English globalization layer (internationalization of the environment, localization of the ends).

A dedicated section, or part in the security section, should identify that it does not address interoperability with the Multilingual Internet (where multilingualisation is the globalisation of every language). It is therefore up to the linguistic networks of the network of networks to take care of interoperability and of the normalisation solutions to make their external formats and subtags conformant (or locally interoperable, when the IANA registry is not involved).

7. Contributors rights and duties are not fully supported

The acknowledgement section mostly quote those who contributed to the pre-WG-LTRU document (the three WG-LTRU Drafts existed prior to the creation of the WG which never studied and tried to conform to its Charter).

This is the privilege of authors to quote who supported them best. However, in this case the document was considerably cleaned through the tough life of the WG. Also, most of the names being quoted are widely known as belonging to a non-IETF affinity group, what enforces the external understanding that BCP 47 documents are actually not IETF documents. This will most probably limit their consideration. After one year of tough debates I can testify these, good or not, three documents are IETF documents for the Internationalized ASCII Internet. I listed the names I consider missing in a Last Call mail.

Authors either did not read it or are keeping harassing me, since they continue asking for an input. I quote my mail: "every contribution can be a key stone in the final construct. That people like Michael Everson, Ned Freed, Lee Gillam, John C. Klensin, Felix Sasaki, Michel Suignard, and Tex Texin are not quoted seems odd. Others like Scott Hollenbeck and Sam Hartman really helped. What about Karen Broome, M.T. Carrasco Benitez? Inputs or help from Brian Carpenter, Ted Hardie, Dylan N. Pierce are real."

I do not ask my name to be listed there since I know "it is not [the] interest [of some in the list] to be associated with [my own] name".

Or would that mean that the IETF does not really back this deliverable? The question here is: does the IETF wants to influence the world (RFC 3935), document the Internationalised ASCII Internet, or serve the Multilingual Internet development. Many would like to know.

M.D. The claim that the acknowledgement section mostly quotes those who contributed to the pre-WG documents is in stark contrast with the description of the editors about how they have formed that list of names.

This description would then be welcome.

Most if not all the people mentioned above are acknowledged by reference, pointing to acknowledgement sections in related documents.

I see then that we agree on who was instrumental.

In my function as co-chair, I have asked if anybody feels left out both on the WG list and on the IETF list; I have not received anything from anybody.

This only means that people are humble and courteous. The point is not to "reward" any contribution: the point is to show that the IETF position is not made by an affinity group. This is to prevent that such an affinity group is considered as having some kind of legitimacy to change consensual documents. This is presently the case with the ietf-languages@iana.org and review management section. This is detrimental to everyone.

BCP 47 is an IETF set of documents, not an externally discussed one.

To show it, since Martin Duërst wants names, I will give mine now I am no longer a Unicode Member. We will see if he respects his own position. I contributed to the Draft.

As a technical contributor, I don't think there is any need for any change here.

appeal:

That Karen Broome, M.T. Carasco Benitez, Brian Carpenter, Michael Everson, Ned Freed, Lee Gillam, Ted Hardie, Sam Hartman, Scott Hollenbeck, John C. Klensin, Dylan N. Pierce, Felix Sasaki, Michel Suignard, Tex Texin be added to the acknowledgement section.

8. Additional remarks

To fully respect Martin Duërst response, I quote this Post Scriptum and his comment. It shades useful light on the WG-LTRU documents and the purpose of this appeal.

PS. Having transparency in mind I copy the IETF main list. This LC ends tomorrow. I do not intent to address the comments. But I will certainly consider them in the appeal I suspect to be unfortunately necessary (NB. Before their first day decision to keep with a twice IETF LC failed document, I proposed the WG-LTRU Chairs to co-write the Drafts so we could finish the work in a few months. I obviously eventually get step by step all what I wanted - in the documents or in the real world: but what a waste of time and effort). Cheers.

M.D.I remember well that specially at the start of the WG, the WG co-chairs repeatedly asked for actual textual contributions. These were few and far between, and were usually rejected by the WG after some discussion.

The records are here. The first WG mail of a co-Chair was the name of the authors and the first mail of the authors was the proposed Draft extracted from the twice IETF LC failed document.

I fundamentally disagreed with the decision, without any discussion, of

- an architectural vision (internationalization in a non documented globalization context),
- a way to address the WG Charter (an ABNF rather than an open framework able to support various needs, including the XML/CLDR),
- a disinterest in a doctrinal consistency with other lingual issues (various protocols, DNS, etc.),
- a lack of understanding of the world's lingual diversity and the architectural opportunities represented by multilingualisation requirements.

I was also personally dismayed and destabilized by the external motivations of the authors and of their affinity group, in line with the IAB RFC 3869, I did not expect to meet at the IETF.

This is why I could seldom contribute text to the document.

I however contributed probably with over 70 documented remarks. A wide part has been disregarded, but all the points I considered as conflicting with a Multilingual Internet have been removed, which was my main objective. I proposed several ways that could have permitted an internal interoperability with external environments (x-tags, hooks, iri-tags). Anyway, interoperability by external environments is possible (if the IESG respects the ietf-languages@iana.org organisation).

I am pleased to see that my main architectural and operational point (that langtag validation cannot operationally work) has been understood and accepted. Even if this is the wrong reason as to why the Draft is designed the way it is. This will help to explain users as to how

they can use RFC 3066 Bis well-formedness for better, simpler, and more powerful up/down filtering.

appeal:

That the IESG considers a multilateral network area with WG considering matters such as:

- multilateral architecture of the networks of the network of networks
- distributed registries architecture
- multilingualisation
- intergovernance mechanisms
- multilevel addresses
- multinaming support
- semantic processing
- interoperating systems

That the IESG considers the resulting changes to the current Draft:

Abstract:

"Possible applications include language negotiation or content selection."

Being read as:

"Possible applications include language negotiation, content selection, **and external linguistic system interoperability.**"

Introduction:

"Applications, protocols, or specifications will have varying needs and requirements that affect the choice of a suitable matching scheme"

Being read as:

"Applications, **interoperations**, protocols, or specifications will have varying needs and requirements that affect the choice of a suitable matching scheme"

ditto in 3.1, 3.2, ...

3.3 applications considerations

Addition of:

"External systems interoperations will result from an external **normalisation** of the langats of the external environment, in order to make them RFC 3066 Bis conformant. In the case of a definitive interoperability impossibility (such as in the case of an external system using an "en-EU" language tag), the corresponding subtag will be added to the IANA Language Subtags Registry as an "external subtag" along a non-reviewed no-delay request. In case of a conflict between a Subtag and an External Subtag, the Subtags Registry value will prevail in the filtering or selecting process."

Annex

The Diffusion of English, or the Ecology of Language?

*This text (from <http://www.uea.org>) and references are quoted **not to advocate** a particular political position (I do not share many of the expressed positions), **but to help IESG Members understand** the importance and the variety of concerns the BCP 47 should address.*

BCP 47 seems of minor importance. Yet, it documents the way to tag, and therefore to class and (de facto order) languages in the Internet world, which has become the world of the human exchanges. As such it is a small but the core building block for languages technologies, cultures, and services policies. If it did not strive to address every the linguistic expectations on an equal basis, it would be considered as a major political unilateral move and manifesto.

This is certainly not what the IESG wants. What IESG wants is an equal technical support of the various cultural approaches. This is why I advocate the current proposition to be used as a default and to address its open interoperability with the other solutions.

Globalization is not a phenomenon that has emerged recently, though fashions in academia might create this impression. What is novel is the extent and depth of the penetration of cultures worldwide. Many of the dimensions of contemporary language policy are insightfully brought together in two competing paradigms by the Japanese communications scholar, Yukio Tsuda.

Diffusion of English Paradigm

- A. capitalism
- B. science and technology
- C. modernization
- D. monolingualism
- E. ideological globalization and internationalization
- F. transnationalization
- G. Americanization and homogenization of world culture
- H. linguistic, cultural and media imperialism

Ecology of Language Paradigm

1. a human rights perspective
2. equality in communication
3. multilingualism
4. maintenance of languages and cultures
5. protection of national sovereignties
6. promotion of foreign language education.

(Tsuda, 1994, our lettering and numbering, for elaboration see Phillipson & Skutnabb-Kangas, 1996; Skutnabb-Kangas, 1999).

The two contrasting perceptions of what is at stake can be seen in relation to language policy in Africa, where some forces are strengthening the diffusion of English, others local language ecologies. Mazrui (1997) assesses how it is that the linguistic hierarchies of the colonial period continue to underpin World Bank and IMF education policies, currently setting the tone for "aid" alongside notoriously anti-social, poverty-inducing structural adjustment policies: "the World Bank's real position ... encourages the consolidation of the imperial languages in Africa... the World Bank does not seem to regard the linguistic Africanisation of the whole of

primary education and beyond as an effort that is worth its consideration. Its publication on strategies for stabilising and revitalising universities, for example makes absolutely no mention of the place of language at this tertiary level of African education. ... under World Bank-IMF structural adjustment programmes, the only path open to African nations is the adoption of the imperial languages from the very outset of a child's education". (Mazrui, 1997, 39-40)

Educational "aid" reflects the linguisticist belief that only "international" (meaning European) languages are suited to the task of developing African economies and minds. The falsity of this position has been exposed by many African scholars, including Ansre, Bamgbose, Kashoki, Mateene, and Ngig) (references in Phillipson 1992; see also Djité 1993; and especially on language rights in Africa, Akinnaso 1994; and Phillipson & Skutnabb-Kangas, 1994).

An alternative approach, based on strengthening African languages, can be seen in a succession of policy documents approved by African governments over the past 15 years, culminating in "The Harare Declaration", agreed at the Intergovernmental Conference of Ministers on Language Policies in Africa, 20-21 March 1997 (reproduced in the New Language Planning Newsletter, 11/4, June 1997). It affirms that appropriate policies that build on African languages have not been implemented, and outlines many strategies for strengthening the local language ecology. It sees the promotion of African languages as central to processes of democratization and peaceful coexistence: "... the optimal use of African languages is a prerequisite for maximizing African creativity and resourcefulness in development activities.

... Africa where scientific and technological discourse is conducted in the national languages as part of our cognitive preparation for facing the challenges of the next millennium.

... (African governments) appeal to all concerned in Africa and throughout the world to engage in a clear and forthright cooperation, with respect for the integrity of African identity and the harmonious promotion of human values and dignity as given expression in African languages."

World Bank policies, and donor activities in harmony with them, consolidate the diffusion of English. The Harare Declaration by contrast seeks to strengthen African language ecologies, to build on the existing multilingualism, and to harness local languages for the solution of local problems. English can still be learned as a foreign language but would not be learned subtractively or used intrusively.

These samples of discourse on language policy need to be situated in political realities. To assess linguistic hierarchies globally, in postcolonial, postcommunist or European Union contexts, one needs to look at economic and political factors, at how resources are allocated to one or some languages rather than others, at ideologies that legitimate such preferences and which tend to glorify some languages and stigmatize others. [1] Theories of language and power, of language policy or social structuring, of language in educational reproduction, need anchoring in the complex real world of cash and hegemonic negotiation. It is a world in which inequality is structured and legitimated by linguisticism. The "international" language English is regarded as universally relevant, despite the abundant evidence that its widespread use in post-colonial contexts has served western interests well (which is what globalization seeks to achieve) and not met the needs of the mass of the population in such countries.

An ecology of language paradigm has a different starting-point. It assumes that speakers of different languages have an equal right to communicate, that multilingualism is desirable and worth encouraging and facilitating, and that language policy should be guided by principles of equity and human rights.

[1] this is introduced by RFC 3066 Bis through the concept of **primary** and **extended** languages among the ISO 639-3 list of equal languages. The WG-LTRU systematically refused to give a definition of a language. The most technical and neutral definition could be "an inter-human information exchange protocol that a computer program can differentiate and identify" (JFC Morfin).

References

- Abou, Sélim and Katia Haddad**, eds. La diversité linguistique et culturelle et les enjeux du développement. Montréal: AUPELF-UREF, 1997.
- Akinnaso, F. Niyi**. "Linguistic unification and language rights." Applied Linguistics 15, no. 2 (1994): 139-168.
- Bailey, Richard W.** Images of English: A cultural history of the language. Cambridge: Cambridge University Press, 1991.
- Calvet, Louis Jean**. Linguistique et colonialisme: petit traité de glottophagie. Paris: Payot, 1974.
- Centassi, René and Henri Masson**. L'homme qui a défié Babel. Paris: Ramsay, 1995.

Coulmas, Florian. "Language contact in multinational organizations." In Hans Goebel, Peter H. Nelde, Zdeněk Starý, and Wolfgang Wölck, eds., *Kontaktlinguistik/Contact Linguistics/Linguistique de contact: An international handbook of contemporary research*, 858-864. Berlin and New York: de Gruyter, 1996.

Crowley, Tony. *Proper English? Readings in language, history and cultural identity*. London: Routledge, 1991.

de Swaan, Abram. "The emergent world language system: an introduction." *International Political Science Review* 14, no. 3 (1993): 219-226. - "The evolving European language system: a theory of communication potential and language competition." *International Political Science Review* 14, no. 3 (1993): 241-256.

Djité, Paulin. "Language and development in Africa." *International Journal of the Sociology of Language* 100/ 101 (1993): 149-166.

Dollerup, Cay. "English in the European Union." In Reinhard Hartmann, ed., *English language in Europe*, 24-36. Exeter: Intellect, 1996.

Fettes, Mark. "Inside the tower of words: the institutional functions of language at the United Nations." In Léger, ed. (1996), 115-134.

Graddol, David. *The Future of English? A guide to forecasting the popularity of the English language in the 21st century*. London: British Council, 1997.

Grin, François and Catherine Hennis-Pierre. "La diversité linguistique et culturelle face aux règles du commerce: le cas du film et des émissions de télévision." In Abou and Haddad, eds. (1997), 265-286.

Hamelink, Cees J. *Trends in world communication: on disempowerment and self-empowerment*. Penang: Southbound & Third World Network, 1994.

Illich, Ivan. *Shadow work*. Boston & London: Marion Boyars, 1981.

Kachru, Braj B. Review of Grant D. McDonnell's "A macro-sociolinguistic analysis of language vitality: Geolinguistic profiles and scenarios of language contact in India." *Language in Society* 25, no. 1 (1996): 137-140.

Labrie, Normand. *La construction linguistique de la Communauté européenne*. Paris: Henri Champion, 1993.

Labrie, Normand and Quell, Carsten. "Your language, my language or English? The potential language choice in communication among nationals of the European Union." *World Englishes* 16:1 (1997): 3-26.

Léger, Sylvie, ed. *Vers un agenda linguistique: regard futuriste sur les nations unies (Towards a language agenda: futurist outlook on the United Nations)*. Ottawa: Canadian Centre for Linguistic Rights, University of Ottawa, 1996.

Lins, Ulrich. *Die gefährliche Sprache. Die Verfolgung der Esperantisten unter Hitler und Stalin*. Gerlingen: Bleicher, 1988.

Mazrui, Alamin. "The World Bank, the language question and the future of African education." *Race and class* 38, no. 3 (1997): 35-48.

Mühlhäusler, Peter. *Linguistic ecology. Language change and linguistic imperialism in the Pacific region*. London: Routledge, 1996.

Phillipson, Robert. *Linguistic imperialism*. Oxford: Oxford University Press, 1992.

Phillipson, Robert and Tove Skutnabb-Kangas. "Language rights in postcolonial Africa." In Skutnabb-Kangas and Phillipson, eds. (1994), 335-345.

Phillipson, Robert and Tove Skutnabb-Kangas. "English only worldwide, or language ecology." *TESOL Quarterly*, special issue on language policy, 30, no. 3 (1996): 429-452.

Phillipson, Robert and Tove Skutnabb-Kangas. "Lessons for Europe from language policy in Australia." In Pütz (1997), 115-159.

Piron, Claude. *Le défi des langues: du gachis au bon sens (The languages challenge: from waste to common sense)*. Paris: L'Harmattan, 1994.

Pütz, Martin, ed. *Language choices: Conditions, constraints and consequences*. Amsterdam: John Benjamins, 1997.

Quell, Carsten. "Language choice in multilingual institutions: A case study at the European Commission with particular reference to the role of English, French and German as working languages." *Multilingua* 16, no. 1 (1997): 57-76.

- Richardson, Jeremy**, ed. *European Union: power and policy-making*. London: Routledge, 1996.
- Routh, H. V.** *The diffusion of English culture outside England. A problem of post-war reconstruction*. Cambridge: Cambridge University Press, 1941.
- Schlossmacher, Michael.** *Die Amtssprachen in den Organen der Europäischen Gemeinschaft*. Frankfurt am Main: Peter Lang, 1996.
- Seaton, Ian.** "Linguistic non-imperialism." *ELT Journal* 51, no. 4 (1997): 381-382.
- Simonsen, Dag.** *Nordens språk i EUs Europa. Språkplanlegging og språkpolitikk motår 2000 (The Nordic languages in the Europe of the EU. Language planning and language policy towards the year 2000)*. Oslo: Nordisk Språksekretariat, 1996.
- Skutnabb-Kangas, Tove.** "Multilingualism and the education of Minority Children." In Tove Skutnabb-Kangas and Jim Cummins, eds., *Minority education. From shame to struggle*, 9-44. Clevedon: Multilingual Matters, 1988.
- Skutnabb-Kangas, Tove and Robert Phillipson**, eds. *Linguistic human rights: overcoming linguistic discrimination*. Berlin: Mouton de Gruyter (paperback version 1995), 1994a.
- Skutnabb-Kangas, Tove and Robert Phillipson.** "Linguistic human rights, past and present." In Skutnabb-Kangas and Phillipson 1994a, 71-110; 1994b.
- Skutnabb-Kangas, Tove and Robert Phillipson.** "Language rights in postcolonial Africa." In Skutnabb-Kangas and Phillipson 1994a, 335-345; 1994c.
- Tonkin, Humphrey.** "Language hierarchy at the United Nations." In Léger (1996), 3-28.
- Troiike, Rudolf.** "The future of English". Editorial, *The Linguistic Reporter* 19/8 (1977): 2.
- Tsuda, Yukio.** "The diffusion of English: its impact on culture and communication." *Keio Communication Review* 16 (1994): 49-61.