

Transcription of Sounds and a Problem of the IPA*

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ABSTRACT

This paper examines the principles of the International Phonetic Association and its Alphabet to see if the International Phonetic Alphabet (the IPA, for short) is adequate for transcribing sounds of a language like Korean. Special attention is given to 'broad transcription' and it has been found that the IPA is inadequate in representing the phonemes: there is no way to correctly transcribe phonemically the sounds of Korean with the current alphabet. A suggestion is given to help solve this problem and extend the IPA to accommodate all the different languages of the world.

Keywords: the IPA, the International Phonetic Association, Broad Transcription, Phonemes, Korean

1. Introduction***

Various ways have been offered and used in transcribing speech sounds, but the best-known and most widely used among them in Korea is the International Phonetic Alphabet (henceforth "the IPA") provided by the International Phonetic Association (henceforth "the Association"). The IPA has been used in Korea in most of foreign language dictionaries including English, French, and German, and to most phonetically unsophisticated students of foreign languages the IPA would be the only set of phonetic symbols they know. For most of sophisticated phoneticians and phonologists, too, the IPA has been no doubt one of the most basic means of transcription in studying speech sounds, even when they use other systems for more specified transcription. Therefore, the principles and use of the IPA are very important not only in practical learning of foreign languages but also in analyzing sounds of languages for serious academic studies.

The problem is, however, the IPA has problems in its principles, usage, and the symbols it provides. This paper is, as a starter, to discuss one of the problems the IPA has: the problem of excessive or wrong specification in broad transcription. What I mean

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by 'excessive' or 'wrong specification' will be clarified below, but roughly 'showing unnecessary or wrong features' in (broad) transcription. This paper shows that the IPA is inadequate for transcribing Korean obstruents, because, even though it purports to be a 'universal' system of phonetic transcription, it is based on the sound systems of European languages. This paper also shows how the transcription system affects or misleads the actual analysis of the sounds of a language, and suggests a way to solve these problems.

2. Broad Transcription in the IPA

Before we go into the problem, let us see what 'broad transcription' means in the IPA and in general. As known to anybody in phonetics or phonology, there are basically two different types of transcription: broad transcription and narrow transcription. Considering that these roughly corresponds to phonemic transcription and phonetic transcription, respectively, one might wonder why 'phonemic' transcription is dealt with in 'phonetic' transcription, but it has to be remembered that phonemic transcription has been used as one of the ways of phonetic transcription. Since "from its earliest days the Association has aimed to provide 'separate sign for each distinctive sound; that is, for each sound which, being used instead of another, in the same language, can change the meaning of a word,'" as stated in the International Phonetic Association (1999; henceforth "the Handbook"), it is certain that the IPA is concerned with the broad, phonemic transcription, too, as well as the narrow, phonetic transcription, of speech sounds. From the outset of the IPA, the phonemic transcription was actually one of the main focuses of transcription. In various places of International Phonetic Association (1949; "the Principles," for short) are found such statements as the following:

In applying the alphabet to any particular language, regard should be had to two fundamental phonetic principles: the theory of "phonemes" and the theory of "cardinal sounds." (p.1)

The three *k*-sounds of the English words *keep*, *cart*, and *cool* can be heard to be different; one can also easily feel the differences in their manner of formation. Nevertheless, from the linguistic point of view they count as if they were one and the same. We write them phonetically with the same letter *k*, since nothing is to be gained by using separate letters for them. (p. 2)

Phonemic analysis is still the most widely understood and practised form of

phonological analysis, at least outside the ranks of theoretical phonologists, and its principles are fairly accessible to all those familiar with alphabetic writing systems. This favours a system of general phonetic description such as the IPA which is closely compatible with a phonemic view. (p. 38)

Moreover, over and above the principles and efforts of the IPA, there are practical and theoretical significance to the level of the phoneme. To most of unsophisticated hearers, phonemes are the sounds they 'hear,' not abstract sounds theorists make out, and phonologically also it is a very significant level of representation, in the sense of the traditional and the more recent concepts of the phoneme.¹⁾

3. Problem of Excessive Specification

The major problem I would like to point out in this paper is that the IPA is inadequate for broad, phonemic transcription for at least some languages: the transcription in the current IPA is forced to contain excessive information especially in the broad transcription of some important phonemes of such languages like Chinese and Korean. Let us take Korean, for our discussion. Obstruent phones (not phonemes) in Korean and their phonetic values are given below. For the sake of comparison, we give 'distinctive features' of Chomsky and Halle (1968) type as phonetic values. Let us use the features [\pm glottalized] and [\pm aspirated], in addition to [\pm voiced], without further discussion about the features themselves.²⁾

(1)	k,t,p,t͡s	g,d,b,d͡z	k',t',p',t͡s',s'	k ^h , t ^h , p ^h , t͡s ^h
glottalized	-	-	+	-
aspirated	-	-	-	+
voiced	-	+	-	-

Here [k,t,p,t͡s] and [g,d,b,d͡z] are "plain" obstruents, [k',t',p',t͡s',s'], "glottalized" ones, and [k^h, t^h, p^h, t͡s^h], "aspirated" ones.³⁾ Since [k,t,p,t͡s] and [g,d,b,d͡z] do not contrast with

1) Mohanan (1982)'s *lexical representation* could be a more recent and perhaps better concept of the phoneme and the phonemic level.

2) We don't want to discuss here what features best define Korean obstruents, because that is not the focus of this paper. No important claims of this paper hinges on this.

3) We could use 'constricted glottis' and 'spread glottis' for 'glottalized' and 'aspirated', but we used the traditional terms glottalized and aspirated because what we are concerned with here is not the phonetic details, but phonemic contrast and their representation. Traditionally the glottalized obstruents were called 'tense' obstruents,

each other, each of the pairs [k,g], [t,d], [p,b], etc., constitutes a phoneme, [\pm voiced] being a redundant feature. So phonemically we need only two features: glottalized and aspirated.

(2)	k,t,p,tʃ,s, g,d,b,dʒ,z	k',t',p',dʒ',s'	k ^h , t ^h , p ^h , tʃ ^h
glottalized	-	+	-
aspirated	-	-	+

So the contrasting features are glottalization and aspiration; no voicing contrast exists. This fact is represented by the Korean alphabet: the “plain” obstruents are represented as ㄱ, ㄷ, ㅂ, ㅈ, ㅊ, glottalized ones are ㅋ, ㆁ, ㆅ, ㆆ, ㆇ, and aspirated ones are ㆁ, ㆅ, ㆆ, ㆇ, ㆈ. These Korean letters do not show anything about voicing, but only the differences in glottalization and aspiration. Notice especially that Korean ㄱ, ㄷ, ㅂ, ㅈ, ㅊ are “cover” symbols which represent both the voiceless plain obstruents ([k,t,p,tʃ,s]) and the voiced plain obstruents ([g,d,b,dʒ,z]). We can convert (2) into (3):

(3)	ㄱ, ㄷ, ㅂ, ㅈ, ㅊ	ㅋ, ㆁ, ㆅ, ㆆ, ㆇ	ㆁ, ㆅ, ㆆ, ㆇ, ㆈ
glottalized	-	+	-
aspirated	-	-	+

We can see here that the Korean alphabet is the perfect system for transcribing Korean obstruents phonemically. Now the contrasts among these consonants can be given in the form of the IPA consonant chart as in (4) below:⁴⁾

(4)	bilabial	dental/alveolar	post-alveolar	velar
stops	ㅂ, ㅃ, ㅍ	ㄷ, ㄸ, ㅌ		ㄱ, ㅋ, ㆁ
affricates			ㅈ, ㆅ, ㆆ	
fricatives		ㅅ, ㆁ		

Note here that it is difficult to give Korean phonemes in Roman alphabet or in the IPA which was made after the Roman alphabet, especially for the “plain” obstruent phonemes ㅂ, ㄷ, ㄱ, ㅈ, and ㅊ. Since these are neither voiced nor voiceless, neither /k,t,p, tʃ,s/, which are “voiceless,” nor /g,d,b,dʒ,z/, which are “voiced,” will do. There are no letters in the IPA to match these phonemic letters of Korean. It is important to see that

but we do not use this term simply because this feature is not so useful as the feature ‘glottalized’ in describing phonemic contrast.

4) The three consonants under each place of articulation are given in the order of lenis-tense-aspirated consonants.

this is not a problem of lacking a few phonetic symbols. The IPA is inadequate in phonemic representation--it has only phonetic symbols as far as Korean obstruents are concerned.

It is unfortunate that this fact has NOT been well recognized even among Korean phoneticians and phonologists. Many of them are so used to using this IPA system that they can hardly find anything wrong with it. Thus, without knowing it, they even go so far as to give wrong analyses with this wrong transcription system.

Let us see how the Korean phonemic system can be misrepresented in the framework of the IPA. The typical example is found in one of the illustrations of the IPA. The contrasts in (4) above are represented in the IPA as in (5) below (the Handbook, p. 120):

(5)	bilabial	dental/alveolar	post-alveolar	velar
stopsb,	p, p ^h	d, t, t ^h		g, k, k ^h
affricates			ʃ, c, c ^h	
fricatives		z, s		

The phonemic representation of Korean obstruents as shown in (5) is a radically different one from that in (4), which could seriously mislead those who try to analyze Korean sounds: the chart in (5) gives the wrong impression that Korean has contrast in voicing as well as in aspiration.

The representation in (5) could be a result of an abstract phonological analysis, which has its own motivation and justification. Let us consider ㅂ, ㅃ, ㅅ, for example. They are represented as /b, p, p^h/, respectively, because theoretically it could be assumed that ㅂ is 'regularly' or 'underlyingly' /b/, which is realized as [p] in certain environments, and ㅃ and ㅅ can be said to share the feature tensity differing only in aspiration. One could even go further and say that in /b, p, p^h/, the /b/ represents 'lax' bilabial stop while /p/ and /p^h/ represents 'tense', /p^h/ having only the additional feature 'aspiration.'

But all these are theoretical assumptions, which do not fit for phonetic transcriptions. It should be remembered that phonemic transcription is a 'broad' but *phonetic* transcription in the sense of the IPA itself, and as such (5) is certainly not acceptable. Consider also that phonemic transcription is often used as a (broad) guide for actual pronunciation. Because the letters b, d, g, etc., have an inherent feature [+voiced] and p, t, k, etc., have its own inherent feature [-voiced], it is inevitable that these two sets of consonants show contrast with each other in the feature of voicing. The IPA chart itself has a note attached to it saying that b, d, g, etc., are *voiced* consonants, while p, t, k, etc., are *voiceless* ones (whether they are used phonetically or phonemically). It says: "Where symbols appear in pairs [like in p b, t d, k g], the one to the right represents a voiced consonant." Therefore, however flexible we may try to be in using the IPA, we

cannot be flexible enough to ignore the voicing features in these letters.

As already mentioned earlier, Korean has no contrast in voicing in any obstruents. It has no voicing contrast in any consonant whatsoever, for that matter. Therefore, the symbols used in (5) have phonetic features which are never contrastive and thus phonemically non-existent in Korean. They have specifications which they need not or should not have. Phonetically these obstruents may have one of these features, and it is true that the plain obstruents (especially ㄱ, ㄷ, ㅂ, ㅈ) are voiced in voiced environments and the others are never voiced. But this does not justify the specification of voicing in their phonemic representation.

To understand this more clearly, let us consider a similar case in English. English voiceless stops are aspirated in certain environments and voiced ones are not. Does this justify the specification of aspiration in voiceless stops in their phonemic representation? The answer is no doubt a clear no. Take English stops, for instance. They are phonemically represented as /b, d, g/ and /p, t, k/; they are never represented as /p, t, k/ and /p^h, t^h, k^h/. To see this, compare English stops with Korean stops phonemically and phonetically as shown below. As for Korean phonemes we use descriptions like /plain stops/, /aspirated stops/, and /glottalized stops/ because we have not yet discussed how we should represent them phonemically. We use the distinctive features again. Features contrastive in either language (*glottalized* and *aspirated* in Korean and *voiced* in English) are italicized for emphasis.

(6) a. Phonemes

Korean /plain stops/

$$\left[\begin{array}{l} - \text{sonorant} \\ - \text{continuant} \\ - \textit{glottalized} \\ - \textit{aspirated} \end{array} \right]$$

English /b, d, g/

$$\left[\begin{array}{l} - \text{sonorant} \\ - \text{continuant} \\ + \textit{voiced} \end{array} \right]$$

Korean /aspirated stops/

$$\left[\begin{array}{l} - \text{sonorant} \\ - \text{continuant} \\ + \textit{aspirated} \end{array} \right]$$

English /p, t, k/

$$\left[\begin{array}{l} - \text{sonorant} \\ - \text{continuant} \\ - \textit{voiced} \end{array} \right]$$

Korean /glottalized stops/

$$\left[\begin{array}{l} - \text{sonorant} \\ - \text{continuant} \\ + \textit{glottalized} \end{array} \right]$$

b. Phones (Phonetic segments)

Korean and English [b, d, g]

$$\left[\begin{array}{l} - \text{sonorant} \\ - \text{continuant} \\ (- \text{glottalized}) \\ (- \text{aspirated}) \\ + \text{voiced} \end{array} \right]$$

Korean and English [p, t, k]

$$\left[\begin{array}{l} - \text{sonorant} \\ - \text{continuant} \\ (- \text{glottalized}) \\ - \text{aspirated} \\ - \text{voiced} \end{array} \right]$$

Korean and English [p^h, t^h, k^h]

$$\left[\begin{array}{l} - \text{sonorant} \\ - \text{continuant} \\ + \text{aspirated} \\ - \text{voiced} \end{array} \right]$$

Korean and English [p', t', k']

$$\left[\begin{array}{l} - \text{sonorant} \\ - \text{continuant} \\ + \text{glottalized} \\ - \text{voiced} \end{array} \right]$$

It is shown in (6) that phonemically no voicing features occur in Korean stops, while they do in English stops, though phonetically they occur both in Korean and English.⁵⁾ Voicing features cannot be in the phonemic transcription simply because they are not contrastive, i.e., they are not phonemic features in Korean. Then it follows that the phonemic symbols for Korean stops should not have the feature voicing specified. In this sense, the use of the IPA symbols b, d, g, p, t, k, etc., is not right for Korean. Try to substitute /b, d, g/ for /plain stops/, /p, t, k/ for /glottalized stops/, and /p^h, t^h, k^h/ for /aspirated stops/. The feature specifications will not match. These symbols have more information than is needed for the phonemic transcription of Korean obstruents, and many phonetic scientists, especially theoretical phonologists, are phonemicizing Korean obstruents with unnecessary specification as to voicing. I call this type of specification 'excessive specification.' This excessive specification makes Korean look like as if there were a voiced bilabial stop /b/ which contrasts with the voiceless bilabial stop /p/, the voiced /d/ in contrast with the voiceless /t/, and the voiced /g/ with the voiceless /k/. It looks like as if there were even the voiced /z/ in contrast to the voiceless /s/, which is the least plausible and worst assumption to make either phonetically or phonologically. Thus this excessive specification could be a downright *wrong* specification, which we should avoid.

This point will be clearly seen if these symbols are compared to their Korean counterparts: none of the Korean letters in (4) contains the feature of voicing, as mentioned above. For instance, 'ㄱ' is simply 'plain velar stop' with no specification as to the feature voicing. Likewise, 'ㄷ' is 'plain dental stop,' and 'ㅂ' is 'plain bilabial stop.' The feature 'plain' here has nothing to do with voicing, referring simply that the

5) See also the difference between /aspirated stops/ and [p^h, t^h, k^h], between /glottalized stops/ and [p', t', k'], and between /b, d, g/ and [b, d, g]. The same symbols can be used differently depending on the language and also on the level of transcription.

consonant in question is not glottalized and not aspirated.

Now one might argue that there are ways to improve this without revising any of the IPA. To counter this type of argument, let us see a seemingly most reasonable analysis of Korean phonemic system within the current IPA. The chart in (5) below is a typical example of this, and it is an analysis which many phonetic or phonological analysts would accept without much doubt. But I emphasize that this problem of excessive specification can not be solved in whatever ways of transcription, as long as only the current letters of the IPA are used.

(7)	bilabial	dental/alveolar	post-alveolar	velar
stops	p, p', p ^h	t, t', t ^h		k, k', k ^h
affricates			c, c', c ^h	
fricatives		s, s'		

Chart (7) looks like much more reasonable than (5) and at a first glance it looks like the problem is solved: there are no symbols with the feature [+voiced], and there are only the diacritics showing glottalization and aspiration, which seem appropriate in representing the phonemic contrasts in Korean obstruents.

The problem, however, is not solved because the symbols used in (7) still have a feature which is redundant: the feature [-voiced]. Some might argue that this redundancy is no problem as far as it does not affect the contrastive features, claiming that these consonants are underlyingly or phonemically voiceless. Others might maintain that it is a trivial problem if it is a problem at all, because the principles and the IPA allow the best and most simple transcription with the current transcription system. Moreover, these consonants are actually voiceless most of the time; therefore representations like (7) can be claimed to be one of the best use of the IPA, as give at the present time.⁶⁾ I agree that (7) is one of the best ways of representing Korean obstruents within the confines of the IPA. But the issue here is not how to best use the IPA as is given--the issue is whether the IPA is best constructed to represent phonemic segments of the languages in point, and my claim is that it is not. The IPA is even contradicting its own principles in transcribing languages like Korean as far as the phonemic principle is concerned. To see this, let us see the principles in the Principles (p.1)⁷⁾:

6) This is in fact one point brought up by an anonymous reviewer of this paper.

7) In the "Handbook" the principles have been a little bit eased, but the IPA as it stands, the principles below still hold in the sense that most primary distinction is reflected in the distinctness of the letters and secondary distinction is reflected in the use of different diacritics.

- (a) When two sounds occurring in a given language are employed for distinguishing one word from another, they should whenever possible be represented by two distinct letters without diacritical marks. Ordinary roman letters should be used as far as may be practicable,
- (b) When two sounds are so near together acoustically that there is no likelihood of their being employed in any language for distinguishing words, they should, ..., be represented by the same letter. Separate letters or diacritical marks may be used to distinguish them in "narrow" transcriptions or in scientific investigations.

It seems that the IPA has been constructed following these principles. Thus b, d, g, and p, t, k are used as symbols for describing phonemes of languages, mostly European, where glottalization or aspiration is not distinctive, and those non-distinctive features like glottalization and aspiration are represented as diacritics. Different letters are used for primary contrasts and different diacritics are added to the letters for secondary phonetic distinctions. My guess is that the IPA symbols b, d, g, and p, t, k probably came into the IPA because most of the languages its founders spoke or knew had phonemic contrast in voicing. The Roman alphabet was particularly useful because it adequately represented the voicing contrast. This primacy of voicing in obstruents is a cause of serious problems for languages which have no such contrast. Suppose most of the languages they knew had contrast in aspiration, not in voicing. They would have used separate letters for unaspirated and aspirated stops, and created diacritics for voicing. So instead of having /b, d, g, p, t, k, p^h, t^h, k^h/ we might have *different* /b, d, g, b^v, d^v, g^v, p, t, k/ where /b, d, g/ are unaspirated stops, and /p, t, k/ are aspirated stops, the superscript 'v' representing [+voiced].⁸⁾ Just as the former /b, d, g, p, t, k/ are unspecified as to aspiration (aspiration is specified by the superscript h), the latter /b, d, g, p, t, k/ are all unspecified as to voicing (voicing is specified by the superscript v). The current way of representation leads to serious misconceptions about sound patterns of some languages. For instance, the use of the superscript [ʰ] as a diacritic makes one regard aspiration as secondary even in languages like Korean (and Chinese, Thai, etc.), which is clearly wrong. In this respect, the IPA can be said to be biased on its system of transcription.

As a consequence of such system, the current IPA *forces* one to choose either from the 'voiceless' obstruents or the 'voiced' ones, even for languages which have no voicing contrast in their phonemes, since there are no letters or symbols that are 'unspecified in

8) The same letters /b, d, g, p, t, k/ are used to represent "different" sounds because we have at present no letters which could represent them as described here. To show the difference between the two sets of stop sounds, I used italics for the latter. In the later part of this paper, suggestions will be made for new symbols for these sounds.

voicing.' Even when there is a language which has no use for the feature voicing phonetically as well as phonologically, the current IPA system would force analysts to use those given letters which have the voicing features. Thus here is a case of the means constraining the ways. The current IPA system constrains the phonemic analysis in the wrong way. Those ways of transcription in (5) and (7) are typical results of all sorts of wrong analyses which originated from the inadequate system. After the theories of Chomsky and Halle (1968), there were once heated, but non-sensical arguments among Korean phonologists as to whether the obstruents should be the voiced ones or the voiceless ones underlyingly or phonemically. A detailed discussion about these arguments is given in Chung (1982).

Now what is needed in the IPA are symbols without this excessive specification: symbols for obstruents with no voicing specification. It needs symbols for 'simple' dental, alveolar, postalveolar, or velar stop. It is important to remember that these symbols are not 'underspecified' ones. What we need are those symbols which are specified differently and correctly for Korean: symbols which corresponds to Korean letters ㄱ, ㅋ, ㆁ, ㆁ, if we confine ourselves to plain stops.

One might argue that using these symbols with no specification as to voicing would harm the phonetic transcription system of the IPA by adding 'abstract' symbols which ignores some of phonetic values of transcribed segments. But a letter with specification as to, say, aspiration but not as to voicing, is as concrete (or abstract, for that matter) as a letter with specification as to, say, voicing but not as to aspiration. Those who try to argue that the symbols I propose are "underspecified" or "abstract" should be reminded of the fact that /b, d, g, p, t, k/ are also underspecified and abstract in that they have no specifications as to the features glottalized and aspiration. [b, d, g, p, t, k] are of course not glottalized and not aspirated, but as phonemic symbols /b, d, g, p, t, k/ have no such specification. Take, for instance, is the /p/ in /pai/. Is it aspirated or unaspirated? Is it glottalized or not glottalized? It is neither aspirated, nor unaspirated, and neither glottalized nor unglottalized--it is a simple 'voiceless bilabial stop,' with no specifications about aspiration and glottalization (and any other secondary articulations). Check once again, the feature specifications in (6) above. The voiceless stop phonemes in English are never specified as to their redundant features. Why should Korean phonemes be?

Considering the fact that all these IPA symbols are also underspecified and abstract, there is no reason to refute my proposal for similar symbols for Korean and similar languages. As suggested earlier in this paper, if the IPA had been originated from a language like Korean, it would have been very likely that they had made /b, d, g/ for "plain" stops and /p, t, k/ for "aspirated" stops, both unspecified as to voicing.

These additions would never do any harm to the phonetic transcription system of the IPA, either. It should be reminded that Hangeul alphabet is as phonemic (for Korean) as

the Roman alphabet (for some European languages), and Hangeul letters represent as concrete sounds (to Korean ears) as Roman letters do (to some European ears). Then, in transcribing Korean sounds, especially phonemic sounds, there should be in the IPA, which intends to transcribe sounds of the world's languages phonemically as well as phonetically, those letters corresponding Hangeul letters which perfectly represent Korean phonemes. Here I am not talking about abstract letters like Chinese or letters for "archiphonemes," which do not actually represent sounds or phonemes. I am referring to the sounds, those important sounds of the Korean language, and the letters that ideally transcribe these sounds. It is a serious mistake to try to squeeze a language into a transcription system which is not completely adequate for the language. As the Roman alphabet is inadequate for transcribing Korean, the IPA, which is based on the Roman alphabet, is inadequate for Korean at least in certain aspects. We should modify the system, not the language, in order to obtain an accurate transcription of the language.

4. Problem with the Liquid

The same (but more serious) problem of excessive or wrong specification exists in the IPA transcription of Korean liquids. Korean has two liquids ([l] and [r]) phonetically, but one ('ㄹ' in Korean alphabet) phonemically. Since the IPA has [l] and [r] but no counterpart for 'ㄹ,' Korean phonologists again forced themselves and produced arguments as to whether the underlying or phonemic representation should be /l/ or /r/. It is nonsense, however, to transcribe Korean 'ㄹ' as either /l/ or /r/, because it is neither /l/ nor /r/ phonemically (for this, again refer to Chung (1982)). It is [l] or [r] only phonetically. It is simply a 'liquid,' without any specification for the features lateral, retroflex, flap, trill, or whatever is connected with /l/ or /r/, and there is no symbol in the IPA to represent this simple 'lateral.' We need a separate symbol that corresponds to 'ㄹ,' in order for the IPA to be in accord with its own phonemic principle. Should we call this too abstract or unspecified to fit into the 'phonetic' transcription system of the IPA? The answer is no, again, as long as the IPA strives to be successful in the broad transcription of languages, because without it it will never be successful in that.

5. Suggestions and Conclusion

Naturally the best suggestion to solve this problem of excessive or wrong specification would be to make up symbols to meet the needs discussed above. My suggestion is to add to the IPA the symbols G, D, B, J to represent 'velar stop,' 'dental stop,' 'bilabial stop,'

and 'postalveolar affricate,' respectively, making sure that they have no specification as to the feature voicing. (Or, perhaps we could use the italics instead of the capitals, as we did earlier above.) One possible (and trivial) problem is some of these symbols seem to be already in use in the IPA for other purposes, but luckily the IPA is using these capitals as *small* capitals. So if we use G, D, B, and J as *large* capitals, it would cause no problems. As for the liquids, I suggest L, the *large* capital, to cover both [l] and [r]. Thus the chart for the Korean plain obstruents and liquids in broad transcription should read like that in (8) below:

(8)	bilabial	dental/alveolar	post-alveolar	velar
stops	B	D		G
affricates			J	
fricatives		s		
liquids		L		

Along this way, the IPA needs to make efforts to create symbols which are nonspecified as to some other specific feature or features as required by particular languages, than those features currently unspecified in the letters. These letters are not a new type of letters foreign to the current IPA, most of whose letters are unspecified as to certain features, as discussed above. If these letters were added to the IPA, it would be more adequate for transcribing not only Korean but also Chinese and other languages which are phonologically different from major European languages. Thus adding such symbols to the IPA is not just a matter of adding a few letters. It means that the IPA should be remove its trait of European orientation in its transcription system and be extended to accommodate all the languages of the world. In connection with this, I would like to suggest that the phonemic principle of the IPA should be made a little more concrete. It should have the following clause added to it: "symbols in broad (=phonemic) transcription should contain all and *only* those features which show contrast in that particular language under analysis."

References

- Chomsky, Noam, & Morris Halle. 1968. *The Sound Pattern of English*. New York: Harper & Row.
- Chung, Kook. 1982. "'Substantive' Underlying Segments." [in Korean] *Language Research* 18.2, 273-284. Seoul National University.
- International Phonetic Association. 1949. (Reprinted 1978). *The Principles of the International Phonetic Association*. London: University College.
- International Phonetic Association. 1999. *Handbook of the International Phonetic*

Association: a Guide to the Use of the International Phonetic Alphabet.
Cambridge, U.K.: Cambridge University Press. (The Handbook, for short)

Mohanan. 1992. *Lexical Phonology*. Doctoral Dissertation. MIT.

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