# A suitable way of dealing with stopstrictives (or 'affricates') 

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Although, here, we concentrate particularly on [ $\mathrm{ts}, \mathrm{dz}$ ], all other stopstrictives (like [ $\left.\mathrm{t}, \mathrm{d}_{3}\right]$ and variants, and many more, but less widespread in the world's languages, including [pf, bv]) are usually mistreated, or even completely ignored, not only as real phones, but often also as phonemes (too frequently, indeed).

First of all, even [ $\mathrm{ts}, \mathrm{dz}$ ], also today, are still badly represented as [ts, dz], which are certainly not single phones, but two, $\llbracket t-s, d-z \rrbracket$, that is actual [ts, dz]. It is true that 'circus lovers' may prefer to indicate them as '[ts, $\overline{\mathrm{dz}}]$ ', quite hilariously, indeed.

We have to carefully consider their constrictive elements (in the beginning part of them). They concern the apex and the lamina of the tongue, which may be chosen differently either by languages or by speakers, although the auditory results are rather similar. In fact, the official IPA does not have special symbols to distinguish them.
fig 1.


However, our orograms and palatograms help in distinguishing them sufficiently, while our labiograms and dorsograms are more general (fig 1, which also shows $[\theta, ð]$ and $\left[\int, 3\right]$, in addition to $[s, z]$ ). It is obvious that there are two partially different ways of articulating them, although this in not shown (or even known [?]) also in serious books on (real) Phonetics.
fig 2.


But, let us pass, now, to the real articulatory nature (and important intrinsic differences) of [ $\mathrm{ts}, \mathrm{dz}$ ], in comparison with 'basic' $[\mathrm{t}, \mathrm{d}]$ and $[\mathrm{s}, \mathrm{z}]$, by carefully looking at fig 2 (where we mainly use the tongue apex).

The combined dark- and light-grey shades indicate the area of contact between the tongue and the palate during the stop phase (ie the initial part of the stopstrictive phone). The dark-grey contact is then quickly removed, leaving only the light one, which constitutes the constrictive phase (ie the final part of the phone) Again, this constitutes a single phone: just like a stop phone has an initial part with full contact between the organs, which is then completely removed, so a stopstrictive phone has an initial full contact, which is then partially removed.

Thus, a stop and a stopstrictive fundamentally differ in the final position of the articulators. However, 'corresponding' stops and stopstrictives (like [ t$]$ and [ tr$]$ ) may also slightly differ in their initial position, as the figure clearly shows.

Also, let us insist again that there is a great difference between real $[\mathrm{ts}, \mathrm{dz}]$ and the sequences [ts, dz], with two clear phonetic segments, also as far as their total duration is concerned, not to mention their syllabification: [ $\mathrm{ts}, \mathrm{dz}$ ] are single elements, while each of [ $\mathrm{ts}, \mathrm{dz}$ ] have two, most commonly heterosyllabic: $\left[\mathrm{t}^{\mathrm{H}} \mathrm{s}, \mathrm{d}^{\mathrm{H}} \mathrm{z}\right]$ (which are easily perceptible, indeed, as quite different from simple $[\mathrm{ts}, \mathrm{d} z]$ ).

Of course，what we have just shown is applicable to other similar（or even partial－ ly dissimilar）phonetic elements，as well．

Let us also compare German stets［＇Tte：ts］and English states［＇sfeits］．Or：Italian dan－ $z a$［＇darrtsa］and broad northern Italian［＇daantsa］（and many other more or less simi－ lar non－neutral variants）．In Polish we find［ ts ］for $c$ in przeceniać，but［ts］for $d s$ in przedsmak．

Words like Italian pazzo［＇pats：tso］and faccia［＇fatf：ffa］are certainly not anything
【＇pats：＇tso，＇fatf：＇tfa】，clearly with no explosion．A preciser way to show this fact would use special symbols：【＇pat：tso，＇faf：tfa】（as 【＇bad：dza，＇ud：dza】for bazza and uggia，in－ stead of simpler［＇badz：dza，＇udz：dza］）．

These＇new＇symbols have the same articulation as in the initial part of the corre－ sponding true stopstrictives，which is not the same as what［＇pat：so，＇pat：tso，＇fat：］a， ＇fat：tfa］would indicate．

Normally，sequences of stopstrictive consonants are produced with no separation between their two parts，certainly when they occur within a single word，although a lexically compound one．This is clear when listening to Italian words like pazzo，fac－ cia，seen above．

But it is very important to really listen to＇normal＇recordings．In fact，unfortu－ nately，online，we happen to find（too）many absurd sound files，realized badly，also because of forced unreliable performances（artificially overprecise，under the illusion of＇utility＇and＇better correspondence＇to spelling）．This problem is caused by trying to be＇clearer＇than necessary or realistic，as for instance even with＇regular＇（and sim－ ple）geminates like in Italian or Polish panna，distorted as $\llbracket n_{*} n \rrbracket$ ，instead of normal $\llbracket n^{\prime} n \rrbracket$ ，belonging to two different syllables．

On the Forvo website，which has no（technical or linguistic）supervision of the un－ trustworthy user－provided recordings，such quite unacceptable mistake is perpetuat－ ed．Also，in looking for some Romanian words there，we happened to find them bad－ ly recorded by Greek and Spanish voices，which altered them unduly！

Let us notice that，in northern Italian mediatic pronunciation，for $/ \mathrm{ts}, \mathrm{dz}, \mathrm{t}\}, \mathrm{d}_{3} /$ ， we often find the clusters $\llbracket t s, d z, f \int, d_{3} \rrbracket$ ，generally heterosyllabic，instead of normal


Let us also quickly add that in that same kind of accent we have the following （different）peculiarity：$\left[i^{(1)} \mathrm{V}, \mathrm{u}^{(1)} \mathrm{V}\right]$ ，instead of neutral $\left[{ }^{(1)} \mathrm{j} \mathrm{V},{ }^{(1)} \mathrm{wV}\right]$ ，also in dubbing！ Here are some examples：piede［pi＇e（＇）ede］，piano［pi＇a（＇）ano］，nuovo［nu＇s（）$\left.{ }^{( }\right)$vod，quale ［ku＇a（＇）ale］，instead of neutral［＇pje：de，＇pja：no，＇nwo：vo，＇kwa：le］．The same for qualità ［ku，ali＇ta（ ${ }^{\circ}$ ］，\＆c，instead of［，kwali＇ta］．

It may be interesting to notice that，in English，expressions like Dutch cheese or


 ［ðæ† ${ }^{\prime \prime}$ th $\sigma \cdot \mathrm{k}$ ］．
fig 3. The phono-articulatory apparatus terms.

$\begin{array}{ll}\text { o } & \text { (lower) lip } \\ 1 & \text { (upper) lip } \\ 2 & \text { (upper) teeth } \\ 3 & \text { alveoli } \\ 4 & \text { postalveoli } \\ \text { 3-4 } & \text { pre-palate } \\ 5 & \text { palate } \\ 6 & \text { pre-velum } \\ 7 & \text { velum } \\ 8 & \text { uvula } \\ 9 & \text { pharynx }\end{array}$
10 tip (or apex, of the tongue)
11 lamina (of the tongue)
10-1 corona (of the tongue)
12 dorsum ([pre-, medium-, post-])
$12+$ radix (root of the tongue)
13 glottis (passage into the larynx) $1^{-}=$vocal folds (or 'vocal cords') $-3=$ arytenoids
14 epiglottis (covers the trachea)
15 nasal cavity (ie e in C; with a labial, $b$ oral, $c$ pharyn. \& $d$ laryn.)

