Segment inventories

These are inventories of the consonant and vowel phonemes found in particular languages. For each inventory shown below:

(a) Make a chart to organize the sounds so that natural classes become more obvious.

(b) What’s the smallest set of phonological features that is needed to distinguish between the sounds in each of these inventories? (Example: For Abkhazian (#1), the only feature we need to refer to in order to give all the vowels in the inventory a unique feature specification is either [±hi] or [±lo]. The other languages shown here all require more than one feature, however.)

I. Vowel inventories

1. Abkhazian: $i$ a
2. Aleut: $i$ u a
3. Salishan: $i$ u ə a
4. Campa: $i$ e o a
5. Swahili: $i$ e a o u
6. Persian/Farsi: $i$ e æ u o ø
7. Mandarin: $i$ e y u o a
8. Kanakanabu: $i$ e ŋ y a u o
9. Turkish: $i$ y i u e ø a o
10. Vietnamese: $i$ e ɛ æ u o ɔ ɯ ɤ ʌ a

II. Consonant inventories

11. Cherokee: d g s h z m n l w j
12. Suena: $p^{h}$ $t^{h}$ $k^{h}$ b d g s $ɔ$ $ɛ$
    m n r w j
13. Fante: p t k kʷ b d g gʷ
    f s h hʷ m n r j w

(Based on Whitley 1978, via UCSC)