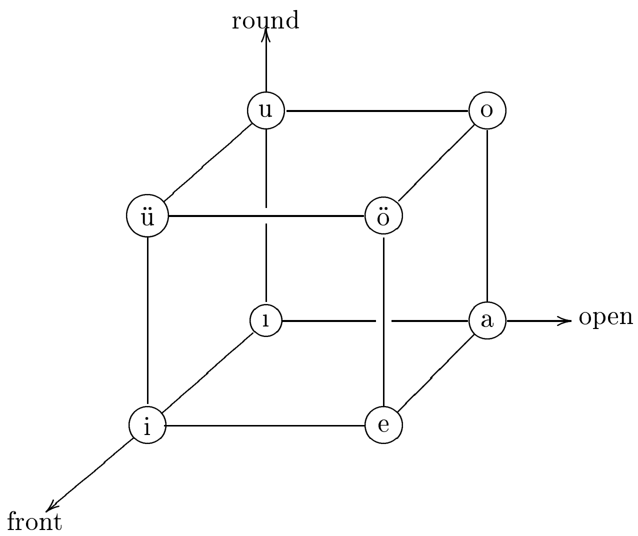
David Pierce originally prepared these notes on the Turkish language in May of 2005 for distribution to people attending a mathematical conference in Antalya.

Developed in 1928 to allow phonetic transcription of the language, the Turkish alphabet has 29 letters. To obtain it from the English alphabet: throw out (Q, q), (W, w), and (X, x); replace the letter (I, i) with the two letters (I, ı) and (İ, i); and introduce the new letters (Ç, ç), (Ğ, ğ), (Ö, ö), (Ş, ş), (Ü, ü).

According to their pronunciation, the eight vowels correspond to the vertices of a cube. At the origin of Cartesian 3-space, place the vowel ı. As fits its simple written form, you pronounce ı by relaxing the mouth completely, but keeping the teeth nearly clenched. The national drink rakı is *not* pronounced like "Rocky": in the last syllable of *this*, the tongue is too far forward. The letter ı is the **close, unround, back** vowel. Other vowels deviate from this by being **open, round** or **front**; let these deviations correspond respectively to movement in the x-, y- or z-directions (right, up, or forwards). Then the vowels can be diagrammed:



In particular: a is like "uh" in English; ö and ü are as in German, or are like the French "eu" and "u"; and u is like the short English "oo". Diphthongs are obtained by addition of y: so, ay is English long "i", and ey is English long "a". Syllables are fairly uniformly stressed.

The consonants that need mention are: c, like English "j"; ç, like English "ch"; ğ, or "soft g", which never begins a word, but lengthens the vowel that precedes it; j, as in French; and ş, like English "sh". Some expressions follow:

Lütfen/Teşekkürler/Bir şey değil (Please/Thanks/It's nothing);
Evet/Hayır (Yes/No); Affedersiniz (You make pardon, *i.e.* Excuse me);
Merhaba (Hello); Günaydın (Day [is] bright, *i.e.* Good morning);
İyi günler/akşamlar/geceler (Good day/evening/night).

Bay/Bayan: Sir/Madam, or gentlemen's/ladies' (room, clothing, &c.);
İtiniz/Çekiniz (Push/Pull); giriş/çıkış (entrance/exit);
sol/sağ (left/right); soğuk/sıcak (cold/hot).

Nasılsınız?/İyiyim; siz?/Ben de iyiyim (How are you?/I'm fine; you?/I'm also fine).

Elinize sağlık: Health to your hand. (This is a standard compliment to the chef, who will reply: Afiyet olsun—May it be healthy.)

Sıfır, bir, iki, üç, dört, beş, altı, yedi, sekiz, dokuz (0,1,2,3,4,5,6,7,8,9);
on, yirmi, otuz, kırk, elli, altmış, yetmiş, seksen, doksan (10, 20, 30, . . . , 90);
yüz, bin, milyon, milyar (10^2, 10^3, $(10^3)^2$, $(10^3)^3$);
yüz kırk dokuz milyon beş yüz doksan yedi bin sekiz yüz yetmiş (149 597 870).

Daha/en (more/most); az (less), en az (least).

Kim, ne, ne zaman, nerede, nereye, nereden, niçin, nasıl, kaç, ne kadar?
(who, what, when, where, whither, whence, why, how, how many, how much?)—these Turkish **interrogatives** also function as rudimentary relatives: Ne zaman gelecekler bilmiyorum (What time come-will-they know-not-I; *i.e.* I don't know when they will come); but most of the work done in English by relative clauses is done in Turkish by verb-forms (participles): "the book that I gave you" in Turkish becomes size verdiğim kitap—you-wards gave-that-I book, or the book *given* to you by me.

In Turkish, you can describe somebody to me for a long time without my having any idea of the sex of that person: there is no **gender**. Even accomplished Turkish speakers of English confuse "he" and "she": there is a unique third-person singular Turkish pronoun, o(n), meaning indifferently "he/she/it".

Turkish is **agglutinative** or **synthetic**. Written as two, but pronounced as one word is the question Avrupa^{0}lı^{1}la^{2}ş^{3}tır^{4}ama^{5}dık^{6}lar^{7}ımız^{8}dan^9 mı^{10}sınız^{11}? Here I have numbered the eleven suffixes. These translate mostly as separate words in English, in the reverse order: Are^{10} you^{11} one-of^9 those^7 whom^6 we^8 could-not^5 *Europeanize* (*i.e.* make^4 be^{2}come^3 Europe^{0}an^1)?

The interrogative particle mısınız here is **enclitic**: in particular, it shows **vowel harmony** with the preceding word. Each syllable of the suffixes above features either a close vowel ({ı, i, u, ü}, which I'll denote #) or an open unround vowel ({a, e}—I'll call it @). Used in a word, an indeterminate vowel # or @ settles down in the vowel-cube to the available point nearest the preceding vowel. Changing "Europeanize" to "Turkify" in the long word above means writing Türkleştiremediklerimizden misiniz?

Agglutination or synthesis can be seen on signs all over: An in^{0}dir^{1}im^2 is an instance^2 of causing^1 to go-down^0, that is, a reduction, a *sale*; while in^{0}il^{1}ir^2 means "is^2 got^1 down-from^0, is an exit [not an entrance]"—it's written at the rear door of city busses. Some common suffixes are:

-ç# (or -c#), indicating a person involved with something: kebapçı (kebab-seller); kilitçi (locksmith); balıkçı (fishmonger); dedikoducu (rumor-monger); gazeteci (journalist or newsagent);

-l#/-s#z, indicating inclusion/exclusion: sütlü/sütsüz (with/without milk); şekerli/şekersiz (sweetened/sugar-free); etli/etsiz (with-meat/meatless);

-l#k, indicating containment or more abstract involvement: tuzluk (salt cellar); kimlik (identity); günlük (daily or diary); gecelik (nightly or nightgown);

-l@r, the ***indefinite* plural** marker: it's not used if a definite number is named: başlar (heads); beş baş: (five head); kişiler (people); on iki kişi (twelve person).

Turkish nouns are **declined** roughly as in Latin: there are genitive, *definite* accusative, dative, ablative and locative cases. From gül (rose):

Gülün dikeni; Gülü koparmayın: Rose's thorn; Don't pick *the* rose.
Güle, gülden, gülde: to/from/on (a/the) rose.

Adjectives as such are not declined; but adjectives can be used as nouns. Nouns can indicate **person** in two senses: the person of the *possessor* of the indicated object, and the person *of* the object:
gülüm, gülün, (Deniz'in) gülü: my rose, thy rose, (Deniz's) her-or-his rose;
gülümüz, gülünüz, gülleri: our/your/their rose.
Gülüm. Gülsün. Güldür: I-am/Thou-art/He-She-It-is a rose.
Gülüz. Gülsünüz. Güldürler: We/you/they are a rose.
Güllerdir: They are the roses. Gülümsün: Thou art my rose.

When two nouns are joined, even though the first doesn't name a possessor of the second, the second tends to be put in the third person: bölüm department; matematik bölümü mathematics department. You can see this feature in business names: banka bank; İş Bankası Work Bank.

Not prepositions, but **postpositions** are used: Gül gibi means "like a rose".

There is no verb corresponding to the English **"have".** "I have a rose" becomes Gülüm var—My rose *exists*. The negation of var is yok. But other verbless sentences are negated with değil: "I am not Rose" becomes Gül değilim.

One Turkish verb can comprise an incredible amount of information. From a simple verb-stem like oku- (read), longer stems can be formed with various suffixes. These suffixes can be:

—**vocal**, *i.e.* indicating voice: okun- (be read); okut- (make read); okuttur- (make make read—as might be said of a principal giving orders to his teachers); sev- (love); seviş- (make love);

—**logical**, indicating affirmation, denial, impossibility and their *possibility*:

oku-	read;	okuyabil-	can read;
okuma-	not read;	okumayabil-	may not read;
okuyama-	cannot read;	okuyamayabil-	may be unable to read;

—**modal** and **temporal**: Here are some complete third-person singular verbs (which can stand as complete sentences): okumaktadır ([s/he] is engaged in reading); okumalı (must read); okusun (let [him/her] read); okusa (if only [s/he] would read); okuyor (is reading); okuyacak (will read); okur (reads, is a reader); okumaz (does not read); okudu (did [definitely] read); okumuş (read [in the past, according to present evidence]).

There are two **verbal nouns**: okumak (to read) and okuma (reading).

Different kinds of endings can be combined into one word: okunabilecekti (was going to be readable); okuyamamamız (our inability to read).

Some sayings: Balcının var bal tası; oduncunun var baltası (A honey-seller has a honey-pot; a woodsman has an axe). Bakmakla öğrenilse, köpekler kasap olurdu: If learning were done by watching, dogs would be butchers.