One of the first issues an analyzing a 12 tone piece, superficially at least, is how to find the tone row or rows (without looking it up, or reading the composer's notes). This is complicated by the fact that Schoenberg, for example, is not completely strict in his row usage. (In fact, he clearly articulates that he imagined the 12 tone method as a 'method' and not a 'system'. Not something to be bound by. His intent was avoid tonal implications, and to find new means of expressive composition.)

Nonetheless we assume that the composer will attempt to make the row usage 'meaningful', and indeed, the selection of one or two rows, "At the exclusion of all other possibilities" in terms of other rows or free composition, would tend to define a particular 'universe' for the piece. So we also assume that a small number of related rows will be employed, and that their orders (and permutations within those orders) as well as the relationship between select rows, will be explored as fully as time and concentration will allow. (We might also imagine that composers through their body of work will tend not to repeat the same row and/or row combinations)

**quick aside on the use of the term 'permutation' above. Perhaps in a given tone row we get the pitches B, Db, G in order. Whereas Webern might chose to render these three tones basically the same way every time.. i.e. same octave, same rhythm, same articulation.., and project to the listener the concept of 'invariance' for the same tones in different, related rows......, Schoenberg would tend not to proceed this way.(see caution below) On the contrary, he often would tend to find as many possible expressive configurations of the same tones, in other words, permutations of them. The examples below are crude and undefined in terms of dynamic profile, etc., but you get the idea.
*** Caution: Having said this, i.e. noting Schoenberg's interest in invention through permutations of row
tones as they arise, we must also note that it is almost as common for him to do virtually the opposite.
Sometimes he will loosely maintain or project a certain melodic-intervallic profile as kind of a mini-
theme for a piece or movement, altering it slightly and changing the contexts in which such a small
theme is set. The idea is similar to 'leitmotiv', sometimes called 'developing variation'. This idea occurs in
both 12 tone and the earlier 'free atonal' works. It is fair to say that Schoenberg is aware of both
tendencies.

Back to the issue of 'finding the rows'. ( I have in fact already looked it up, revealed later in the paper, but
let's see if we can do it the hard way ).

It's not a bad idea to have a quick look at the first and last measures of the piece... just in case appears to
be the retrograde of the other. If so, the composer might have produced a 'palindrome' piece- where the
second half is , in terms of pitch for sure, and perhaps in terms of other articulations, the exact retrograde
of the first half. ( See Luigi Nono, "incontri ")

The first phrase:

looks like the first four notes might be E F G Db

The last phrase:
Looks like the last four notes might be very low Db, E-F-G together. Could be DbG F E. Oh no. Might be a palindrome!

Well if it is to be a palindrome, then we might look for a 'structural midpoint". Perhaps there will be a significant figure or extreme gesture of some kind at approximately the midway point of the work, which really appears to be mirror-image. We note that there are 24 measures in this piece, so let's have a look at what happens in about measures 12-13... see if there's a mirror image feature.

Looking at the 'middle':
well, I don't really see that kind of clear symmetrical point of division. I wouldn't rule out the use of some kind of symmetrical row-usage scheme, but I don't any reflection of palindrome in the small, literal musical gestures themselves. Oh well.

However... looking at those caesuras in measure 15 and 16... noting the rarity of caesuras in the work, the fact that time, i.e. the perceived kinetic time flow, is stopped, the fact that the 'hands' or parts are sounding together- unified, the fact that the same figure is repeated (the caesura/chord idea, not literal pitches) well all of these elements would lead one to attribute 'structural significance' to these few beats in terms of the piece's 'Form'.

But to return to the question of 'finding the row'. I often find it useful to produce a kind of 'scatter graph' of the first few measures. That is, I will take the pitches off the staff and render them visually, or graphically, in space. (Actually these can be generalized as a form-analysis technique is to change/transmogrify? the modality of representation into one which lends itself to easier pattern recognition. In other words, I'm trying to find pitch-class names in order... I'm for the moment not interested in all of the rhythms and articulations and dynamics, chords?, motives.. Etc... So I need to get out of this distraction into a modality which focusses simply on the notes... names or pitch classes. (I would not call this a 'reduction' or 'simplification',.. or hierarchy... all of those concepts which also may
apply to analysis. Here, I would call it a 'filter'. Viewing the piece through a pitch-class row-order filter.

($$ Note, slurs and beams in the musical notation are often good clues as to tetrachord groups, etc. I would suggest comparing beam-group tetrachords with your emerging ideas of the row. )

So here are the first couple of measures:

Rendered in 'scatter graph note name form' ...
Notice right away that there appear to be duplications of notes between top and bottom parts; the dB, the F, and then the Bb. This would suggest a superimposition of two rows. A quick referral to the score (beaming, rhythmic displacement, grouping) would also tend to confirm basically a two part, polyphonic approach. If so, we might project the rows more or less as follows:

Now, between the entries of our projected upper and lower lines, we detect the same interval pattern. This might suggest a second row, either as a transposition of the first or perhaps some other retrograde inversion operation (but we do not yet know the end of the row).. so we just keep this in the back of our minds and hope for the simplest version. So it looks like we might dealing with two rows here,

P4, beginning E F G Db, or 4 5 7 1,

P10 beginning Bb B Db G or 10 11, 1 7.
Looking again at the opening, and now working with an assumption of two superimposed rows, probably P4 and P10, it certainly appears that the Gb Eb Ab D in the soprano of the 2nd measure would be the next tetrachord.

\[ P4 = E \ F \ G \ Db . \ Gb \ Eb \ Ab \ D \] ....... or \[ 4 \ 5 \ 7 \ 1 \ . \ . \ 6 \ 3 \ 7 \ 2 \].

If this were the case.. Lets us pursue the imitative transposition idea , and look for this new 2nd tetrachord interval shape in the left hand part.

The point to be made here is that we do find the interval - array ( set, group, collection? ) \[ 0 \ 3 \ 5 \ 6 \] or \[ mi3, P4, TT \] imitated in the tenor voice. Here is an example also where 'stem direction' can assist in clarifying the composer's thinking. The issue is, how do we now account for vertical intervals and chords with respect to row order? Schoenberg is somewhat balanced with respect to strict row order- he knows it is there, yet he will depart as expression and invention demand. Still, he does wish the row order to be meaningful and is able to do this, while allowing for a little more note-selection freedom by defaulting to the higher groupings of the row... the hexachord, the tetrachord, the trichord, the dyad. If .. he is working for the moment at the tetrachord level... then....the specific note orders within, among, between those tetrachords.. might be flexible.

So returning to the question of finding our row, we note in the imitative tenor voice over the barline in measure 2-3 that this.. tetrachord, which seems to imitate perfectly the intervals of the soprano beats before, is superimposed vertically with 4 other pitches. Might we suspect that these other pitches would comprise the final tetrachord of the LH P10 row, and complete the chromatic aggregate.

\[ Bb \ B \ Db \ G \ . \ . \ C \ A \ D \ Ab \] ............ we need \[ Eb \ E \ F \ F\# \]

\[ 10 \ 11 \ 17 \ . \ . \ 0 \ 9 \ 2 \ 8 \] ............ we need \[ 3 \ 4 \ 5 \ 6 \]
and yes, in the bass part we get F F# Eb E , or 5 6 3 4 . That's our Row now, and we trust, because of the linear presentation and thinking thus far, that this is the original order.

So, we can conclude we have P10 as 10 11 1 7 0 9 2 8 5 6 3 4

or Bb B Db G C A D Ab F F# Eb E

So what of P4... well if the strategy so far holds, we should find an imitation of the last tetrachord of P10 ( 5 6 3 4 ) or of interval classes ( 0 , 1 , 3, 1 ) in the soprano, and we do- we find B C A Bb in the soprano. Therefore, P4 is confirmed as

P4 = E F G Db . Gb Eb Ab D ...... B C A Bb. or 4 5 7 1 . 6 3 8 2 . 11 0 9 10.

The next thing to do ( the next paper ) will be to have a closer look at the intervallic possibilities of the row and the possible relations between the two rows.