Auxiliaries and modals and verbs

I ate.
I could eat.
I had eaten.
I was eating.
I had been eating.
I could have eaten.
I could be eating.
I could have been eating.

So: could, have, be, eat. How do we determine what form each verb takes?

Auxiliaries and modals and verbs

Have: Perfective (aspect)
I have eaten. I had eaten.

Be: Progressive (aspect)
I am eating. I was eating.

Could: Modal

 Auxiliaries and modals and verbs

I could have been eating.
*I could be having eaten.
*I was having eaten.
*I had been having eaten.

It looks like there's an order:
Modal, Perf, Prog, verb.

Auxiliaries and modals and verbs

Suppose:
Have is of category Perf.
Be is of category Prog.
May, might, can, could are of category M.

They are heads from the lexicon, we will Merge them into the tree above vP. Their order is captured by a new extended Hierarchy of Projections:
Modal > Perf > Prog > v > V

Except not every sentence has these. So:
(Modal) > (Perf) > (Prog) > v > V

Negation

Consider the following:
I did not eat.
I could not eat.
I had not eaten.
I was not eating.
I had not been eating.
I could not have been eating.

Suppose not is of category Neg.

How do we describe where not occurs? How can we fit it into our Hierarchy of Projections?
Where does Neg fit?
Suppose that we can fit Neg in our Hierarchy of Projections. Just like the other things we just added.
- (Modal) > (Perf) > (Prog) > v > V
Where would it go in the HoP, and how can we explain the word order patterns?
- I could not have been eating.
- I had not been eating.
- I was not eating.
- I did not eat.
Remember v and how we explained where the verb is in Pat gave a book to Chris?

A-ha.
Picture this:
- I ?+might not <might> have been eating.
- I ?+had not <had> been eating.
- I ?+was not <was> eating.
So what is ?, then?
- He did not eat. He ate.
- He does not eat. He eats.
All that do seems to be doing there is providing an indication of...tense.

HoP revisited
So, now we know where Neg goes. Above all the other things, but below tense (category T).
- T > (Neg) > (M) > (Perf) > (Prog) > v > V
Just as V moves to v, so do Perf, Prog, and M move to T.
If Neg is there, you can see it happen.
- They T+shall not <shall> be eating lunch.
- They T+shall <shall> be eating lunch.

What does do do?
But what about when there’s just a verb and Neg, but no M, Perf, or Prog?
- I ate lunch.
- I did not eat lunch.
Eat clearly does not move to T.
But not “gets in the way”, so tense cannot “see” the verb. Instead, the meaningless verb do is pronounced, to “support” tense. “Do-support”
- We will return to the details in due course…

So, we have T
We’ve just added a category T, tense.
- The idea: The tense of a clause (past, present) is the information that T brings to the structure.
  T has features like [T, past] or [T, pres]
  Or perhaps [T, past] or [T, nonpast].
Theese features are interpretable on T. T is where tense “lives.” We see reflections of these tense features on verbs (give, gave, go, went) but they are just reflections. Agreement. The interpretable tense features don’t live on verbs, they live on T.

Pat might eat lunch.
We already know how this is supposed to work, to a point.
Merge eat and lunch, checking the uN feature of eat (and assigning a 0-role to lunch, namely Theme—this is NP daughter of VP).
We already know how this is supposed to work, to a point.

Merge eat and lunch, checking the uN feature of eat (and assigning a 0-role to lunch, namely Theme—this is NP daughter of VP).

We already know how this is supposed to work, to a point.

Merge eat and lunch, checking the uN feature of eat (and assigning a 0-role to lunch, namely Theme—this is NP daughter of VP).

Merge v and the VP eat lunch, in conformance with the Hierarchy of Projections. v projects, and still has a uN feature.

Merge v and the VP eat lunch, in conformance with the Hierarchy of Projections. v projects, and still has a uN feature.

Move the V eat up to v.
Pat might eat lunch.

Merge Pat with v' to check the uN feature and assign a θ-role (Agent, this is NP daughter of vP).

So, now what do we do with might?

1) And eat lunch Pat shall.
2) What Pat should do is eat lunch.

It kind of seems like it goes between the subject and the verb, but how?

If we leave everything as it is so far (UTAH, Hierarchy of Projections), the only option is to Merge might with the vP we just built.

Then, M moves up to T.

Why? Because M, Perf, and Prog all move up to T. For the same kind of reason that V moves up to v.

Right now we have no way to describe this in our system, except with this "rule from the outside" that stipulates that V moves to v, and (M/Perf/Prog) moves to T.
Pat might eat lunch.

Ok, that's all fine and good, except that the sentence is Pat might eat lunch not Might Pat eat lunch.

How do we get Pat might eat lunch out of this?

Pat might eat lunch.

As previewed earlier, the subject moves to this first position in the sentence, around the modal.

“Moving” Pat here means Merging a copy…

Pat might eat lunch.

Great! Why?

Jumping ahead, we're going to say that this is a property of T-type things generally: T needs to have an NP in its specifier.

We can encode this as a (special type of) uninterpretable feature on T: [uN*]. More on that later.

Side note: “I” vs. “T”

• You may have heard in the past that it tense should be of category I (for Inflection), rather than T (For Tense).

• Rest easy: T and I are (for current purposes) just two names for the same thing.

• Historically, this was called INFL, then I, and now usually called T. But these are just names. I vs. T, Istanbul vs. Constantinople; St. Petersburg vs. Leningrad.

Pat ate lunch

Now that we have T in the Hierarchy of Projections, we're stuck with it.

Yet, where is T in Pat ate lunch or Pat eats lunch?

It looks like the tense marking is on the verb, we don’t see anything between the subject and the verb where T ought to be.

Now that we have T, this is where tense features belong. We take this to be the thing that determines the tense of the sentence, even if we sometimes see the marking on the verb.

Pat ate lunch

Since (most) verbs sound different when in the past and in the present tense, we suppose that there is a [past] or [present] feature on the verb.

However, to reiterate: tense belongs on T.

The tense features on the verbs are uninterpretable.
Feature classes

There are tense features. Like past, like present. There are case features. Like nom, like acc. There are person features. Like 1st, like 2nd. There are gender features. Like masculine, like feminine.

So, we can think of this as a feature category or feature type that has a value.

[Gender: masculine]   [Person: 1st]
[Tense: past]         [Case: nom]