Ordinary tense logic is a 'multi-modal logic', in which there are two (pairs of) modal operators: P/H and F/G. In the semantics, the accessibility relations, for past and future tenses, are interdefinable, so in effect there is only one accessibility relation in the semantics. However, P/H cannot be defined in terms of F/G. The expressive power of the language does not match the semantics in this case.

But this is just a minimal multi-modal theory. The frame is a pair consisting of an accessibility relation and a set of points, representing moments of time. The two modal operators are defined on this one set.

In the branching time theory, we have two different W's, in a way. We put together the basic tense logic, where the points are moments of time, with the modal logic, where they are possible worlds. But they're not independent of one another. In particular, unlike abstract modal semantics, where possible worlds are primitives, the possible worlds in the branching time theory are defined entities, and the accessibility relation is defined with respect to the structure of the possible worlds.

In the pure, abstract theory, where possible worlds are primitives, to the extent that there is structure, the structure is defined in terms of the relation on these worlds. So the worlds themselves are points, the structure of the overall frame is given by the accessibility relation.

In the branching time theory, the possible worlds are possible histories, which have a structure defined by a more basic frame, and the accessibility relation is defined in terms of that structure. The structure comes from the defined structure of the worlds, and the relation is derivative from that.

That's one way to think of it. However, one can also say that the basic structure which gives rise to the definition is an ordinary frame of the kind we have gotten used to. We're just using the frame in a different way in the branching time theory. So there is no operator which is defined on the frame in the usual way, but there is an operator $\Box$ such that $\Box \varphi$ is true at some point $x$ just in case $\varphi$ is true in all of the possible worlds related to $x$. Thus, we use the basic frame to define two other sets of entities on which the modal operator is defined.

The basic branching time frame is a frame in which the $R$ is transitive and backward-connected: from any point there is a unique linearly ordered set of points going backward, but the forward direction has a branching structure. So we have a irreflexive, backward-connected transitive relation as our basic $R$. We then define a notion of history: a maximal totally connected subset of the set of basic points.

What are the points? Intuitively the points are possible moments in a history. So $xRy$ means that $y$ is a possible future of $x$. 
Thus we have a basic frame and a notion of history as a maximal totally connected subset of the set of basic points. 'Totally connected' means that for every pair of points in the subset, the relation $R$ holds between them one direction or the other. 'Maximal' means there is no proper subset of it that meets the condition.

Now we're going to define two operators. The ordinary tense operator will be interpreted relative to a history: $F\varphi$ is true at some point in a history iff $\varphi$ is true at some other point in the future in that same history. The modal operator $\Box$ will be defined such that $\Box\varphi$ is true at a moment iff $\varphi$ is true in all the possible histories at that moment. Each moment thus defines a class of histories: those that pass through that moment. And something will be necessary at that moment iff it is true in all the histories that pass through it.

It's interesting to look at the relationship between the way tense logic and the way tense in natural language works. In natural language, when you say 'there may be a sea battle', it doesn't mean there may be one going on now, but it means there may be one in the future. However, it can't mean there may have been a sea battle. You have to use the past tense for that, or more precisely the perfect aspect. When you say 'there may be a sea battle', you also usually have a fixed time in mind. You can say 'there may be a sea battle tomorrow'. To put this in a tensed way, you could say 'it might be that there will be a sea battle tomorrow'.

We see that there is a divergence between tense logic and natural language. The idea of tense logic is thus to get clear about the basic conceptual resources that give you an account of what is being said when you use tense in modality in natural language, but it is not supposed to give you a theory about the compositional structure of natural language and how it works. That's a much more difficult question. However, it's helpful to know what sorts of things that can be said, and what sort of perspicuous notation can be devised to say them.

One advantage of setting things up this way is that one could separate the way modality works from the way tense works. We know what how tense works: it has a linear structure. As for modality, we have an accessibility relation $R$: two histories stand in this relation at a given moment just in case they both pass through this moment. So it is an equivalence relation. Thus, we have an time-indexed S5 modal operator. Even if $p$ is a timeless proposition, 'necessary $p$' will be a tensed statement.

One can also put aside the linguistic question and focus on the metaphysical question about the nature of the future, reality of the future and so on. You can look at the ancient arguments and sort out fallacies in them. You don't settle the metaphysical questions, but you sharpen them by distinguishing between fallacious reasoning that turns on equivocating between tense and modality on the one hand, and deeper questions about how to understand the nature of these entities on the other.

You can ask: what are the facts that make it true that there will be a sea battle tomorrow? One answer (the answer of the realist about the future) is: the fact that there will be a sea battle tomorrow. To use a term of Michael Dummett, truths about the future, on the realist view, are “bare truths”, not truths that are made true by
soe truth avout the present. On a “temporalist” or presentist” metaphysical view, the truth of future statements is determined by the facts of the present. The fallacy assumption is that a future tense statement can be true at the present only if there is something at the present to make it true, just because it's about the present. On this view, if it is now causally undetermined whether there will be a sea battle tomorrow, then there can now be no fact of the matter about whether there will be one.

Contrast this with the way one thinks about counterfactuals. Counterfactuals semantics will say the sentence ‘the butter would have melt if I heated it’ is true in the actual world just in case in some counterfactual world where I heat it, it melts. So we ask: what are the truth makers of the counterfactual? What makes it true? A natural answer would be: what makes it true is something about the actual world. Something about the composition of the butter for example. Now if you are a 'realist' in the sense above ('realist' conception of the future), you might want to say that what makes the counterfactual true is not something about the actual world, but facts about some counterfactual world.

But you also could take the view about the future that says that it is mere potentiality. One of the futures will become reality, but it isn't yet determined. So to the extent that it is now true that there will be a sea battle tomorrow, there must be something about the present that makes it true. There has to be a sort of disposition at the present which will bring it about that there is a sea battle tomorrow. A 'presentist' person will thus believe that reality consists of what has happened up to now and what's determined by that. So certain possible futures are ruled out. On this view, then, a node on the tree represents reality. It is like a possible world. The past and the future are all facts about the world.

That's the sort of metaphysical issue which one can debate about, but our formal model can represent both metaphysical views. On both accounts, the same tree structure can represent both tense and modality. You can then focus on the question of which kind of arguments can settle the issue, sorting out the fallacies which depend on confusing moments of time and histories, i.e. on equivocation.

For more details see handout "Notes on branching time".