I have been using the following terms in my model: (P) primary meristem, (V) vegetative biomass, (I) inflorescence meristem, (F) floral meristem. I’ve looked back through notes as I was developing the model structure to determine how I developed those categories. My intention was to use the processes with which plant developmental biologists describe plant meristem dynamics to construct the plant architectures that are described by evolutionary ecologists.

I use the term primary meristem to identify the tissue that produces the axes of plant growth. The term is synonymous with primary shoot meristem, or primary shoot apical meristem. The primary shoot apical meristem (SAM) is an embryonic tissue that establishes the primary axis of plant growth. The primary SAM produces leaf primordia with secondary meristems in their axils. Divisions of the primary SAM generate metamers consisting of a node, internode, leaf, and axillary meristem. Axillary meristems are secondary meristems, as they originate from within the embryonic primary meristem. There are two hypotheses about axillary meristem formation—the cells in the axillary meristem might directly consist of cells from the primary shoot am, or the cells in the axillary meristem might reacquire the ability to function as a shoot apical meristem. In either case, the if the axillary meristems are activated they are (for our purposes) functionally equivalent to shoot apical meristems during branching. I thus use primary meristem to label the state variable describing the meristem pool that produces the axes of plant growth and generates metamers.

I use the term vegetative biomass to identify leaves. To understand why I separate this from primary meristems, consider the example of an unbranched plant. For an unbranched plant, a primary meristem division generates one copy of itself and an axillary meristem that remains dormant. In essence, the number of primary meristems remains constant at one throughout the life of the plant. However, the number of leaves grows – each primary meristem division adds a new leaf. So I include a vegetative biomass pool that is separate from the primary meristem pool.

I use the term inflorescence meristem to identify the tissue that is competent to flower. Primary meristems transition to inflorescence meristems before producing flowers. If the plant we are interested in has a determinate inflorescence, the inflorescence meristem produces a floral meristem once it divides. If the plant we are interested in has an indeterminate inflorescence, the inflorescence meristem produces an inflorescence meristem on the main axis and a floral meristem (i.e. a flower) in an axillary position.

I use the term floral meristem to identify flowers. Flowers are produced from inflorescence meristem; even if a plant produces only a single flower on the its primary axis of growth, the primary meristem transitions to an inflorescence meristem before producing a floral meristem.

**Changes.** Our meeting yesterday and rereading my notes helps me understand how my choice of language confuses the issues. I think I can keep the same model structure but change the words to better correspond to existing literature. I will describe how the primary and secondary meristems generate the vegetative plant body plan, and then collectively refer to the primary shoot apical meristem and secondary axillary meristems as **vegetative meristems** (formerly primary meristems). To distinguish this from the pool of ‘vegetative biomass’ that I use above, I will use **leaves** (formerly vegetative biomass) to refer to the photosynthetic structures produced by vegetative meristem divisions. I will keep the term **inflorescence meristem** and use **flowers** (formerly floral meristems). This would separate parts of the model that can divide to produce more of themselves (vegetative and inflorescence meristems) from parts of the model that can’t (leaves and flowers).