MARIE DUŽÍ: *If structured propositions are logical procedures, then how are procedures individuated?* This paper suggests identifying fine-grained structured propositions with abstract procedures. In 1994 Moschovakis famously conceptualized meanings as algorithms. Yet much earlier, in 1968 and 1969, Tichý presented a variant of procedural ('intension-friendly') semantics, according to which the sense of a term or expression is an algorithmically structured procedure detailing what operations to apply to what procedural constituents to arrive at the object (if any) denoted by the expression. Such procedures are rigorously defined as *constructions*. Tichý developed a logical framework known today as Transparent Intensional Logic (TIL) that will serve as my background theory.

I defend the following thesis. We learn, communicate and think by means of procedurally structured concepts. Regardless of the way in which the meaning of an expression is encoded in language, its meaning is a procedure. Unlike sets, which lack parts and structure, procedures have constituent sub-procedures that are to be executed in order to arrive at the product of the procedure (if any). Not only the particular parts matter, but also the way of combining these parts into one whole instruction that can be followed, understood, executed, learnt, etc., matters. I explicate meanings as logical procedures that can be assigned to expressions as their context-invariant meanings. In particular, complex meanings, which structurally match complex expressions, are complex procedures whose parts are sub-procedures. For instance, the sentence "Tom is wise" encodes an instruction of how, in any possible world w at any time t, to evaluate its meaning in order to arrive at a truth-value. The respective procedure consists of these constituent sub-procedures: take the individual Tom; take the property of being wise; extensionalize the property with respect to the w, t of evaluation; produce a truth-value, **T** or **F**, according as Tom has the property of being wise at those w, t. The glue that keeps the constituents together so as to make one whole is the procedure itself. A procedure is not a set of parts, because a set, unlike a procedure, cannot be executed.

However, procedural semantics presents us with the problem of the granularity of procedures, because theoretically each procedure can be refined *ad infinitum.* Moreover, from the procedural point of view TIL constructions are actually too fine-grained. In an effort to solve the problem we have introduced the notion of *procedural isomorphism.* Procedural isomorphism is a nod to Carnap's intensional isomorphism and Church's synonymous isomorphism. Any two terms or expressions whose respective meanings are procedurally isomorphic are deemed semantically indistinguishable, hence synonymous. Yet the problem of the granularity of meanings remains open, because we have got several alternatives of the definition of the relation of procedural isomorphism over a given set of TIL constructions. Granularity is a pressing issue, in part because in a hyperintensional context only expressions with procedurally isomorphic meanings can be mutually substituted.

I will discuss various alternatives of procedural isomorphism. The novel contribution of this paper is a new definition of procedural isomorphism, Alternative (A1''), viz. isomorphism modulo α-, and β-convertibility *by value*. This definition is an adjustment of Church's Alternative (1). I argue for β-conversion by value and show that this conversion, rather than Church's λ-conversion, is the right way of applying a function to an argument. Alternative (A1'') is a demanding and fine-grained criterion of synonymy. Yet I admit that slightly different definitions of procedural isomorphism are still viable options. What appears to be synonymous in an ordinary vernacular might not be synonymous in a professional language like the language of, for instance, logic, mathematics or physics. Thus I am also considering whether it is philosophically wise to adopt several notions of procedural isomorphism. It is not

improbable that several degrees of hyperintensional individuation are called for, depending on which sort of discourse happens to be analyzed.