Analysis of F# programs

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- Metrics for F# programs
- Lightweight resource analysis in F#
- Efficient implementation of data structures in F#
- Refactor in F# programs
- New approach of handling documentary structure in F# programs

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- Our proposal
- Advantages
- Description of the model

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- Documentary structure: comments and whitespace in source code

- Source code is primarily created for humans to read, and not for machines to compile
- The documentary structure of the source code should be preserved during program transformations if the produced source is for human consumption

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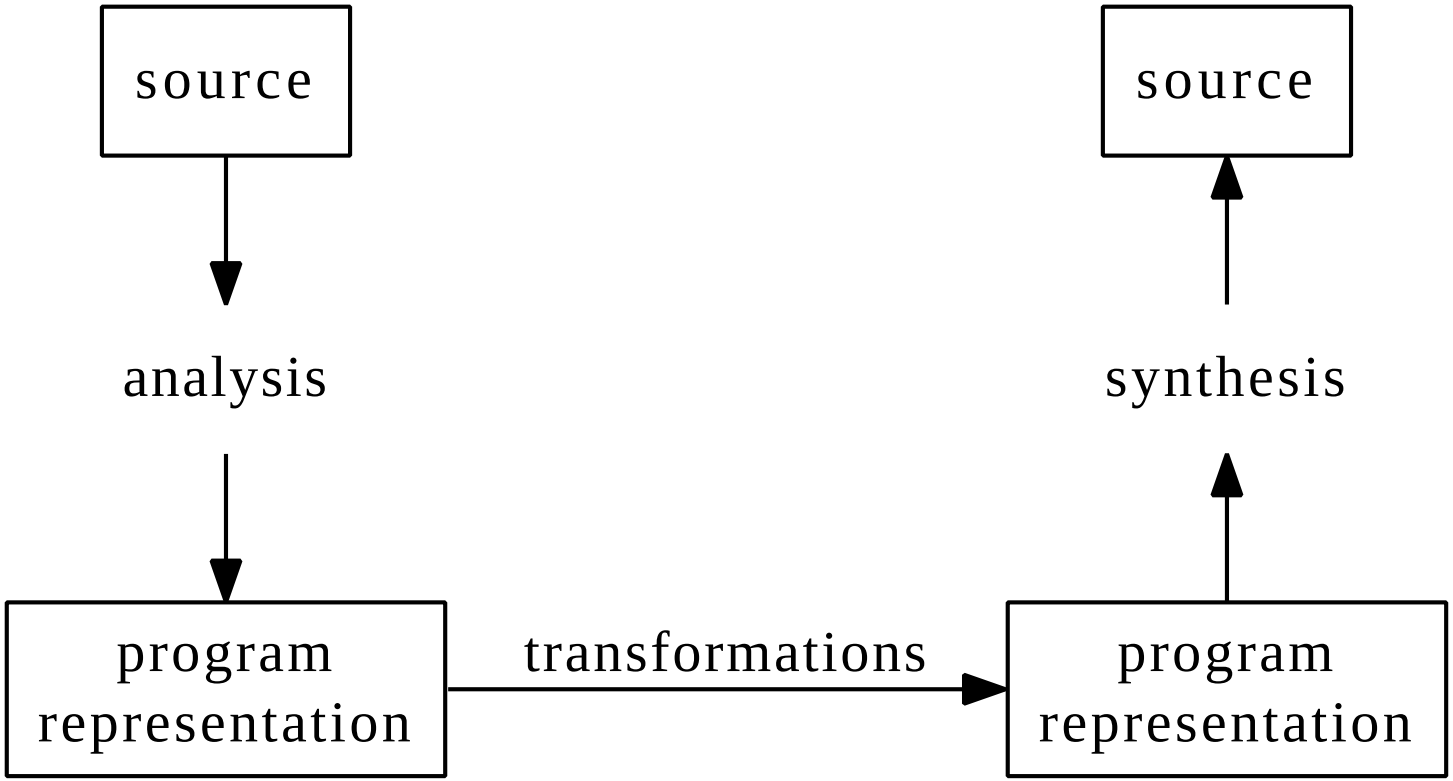
Usual approach



Our proposal

- The documentary structure is detached before the transformations
- and it is re-attached after the transformations
- The detached information is stored in layers
- The reconstruction is lossless

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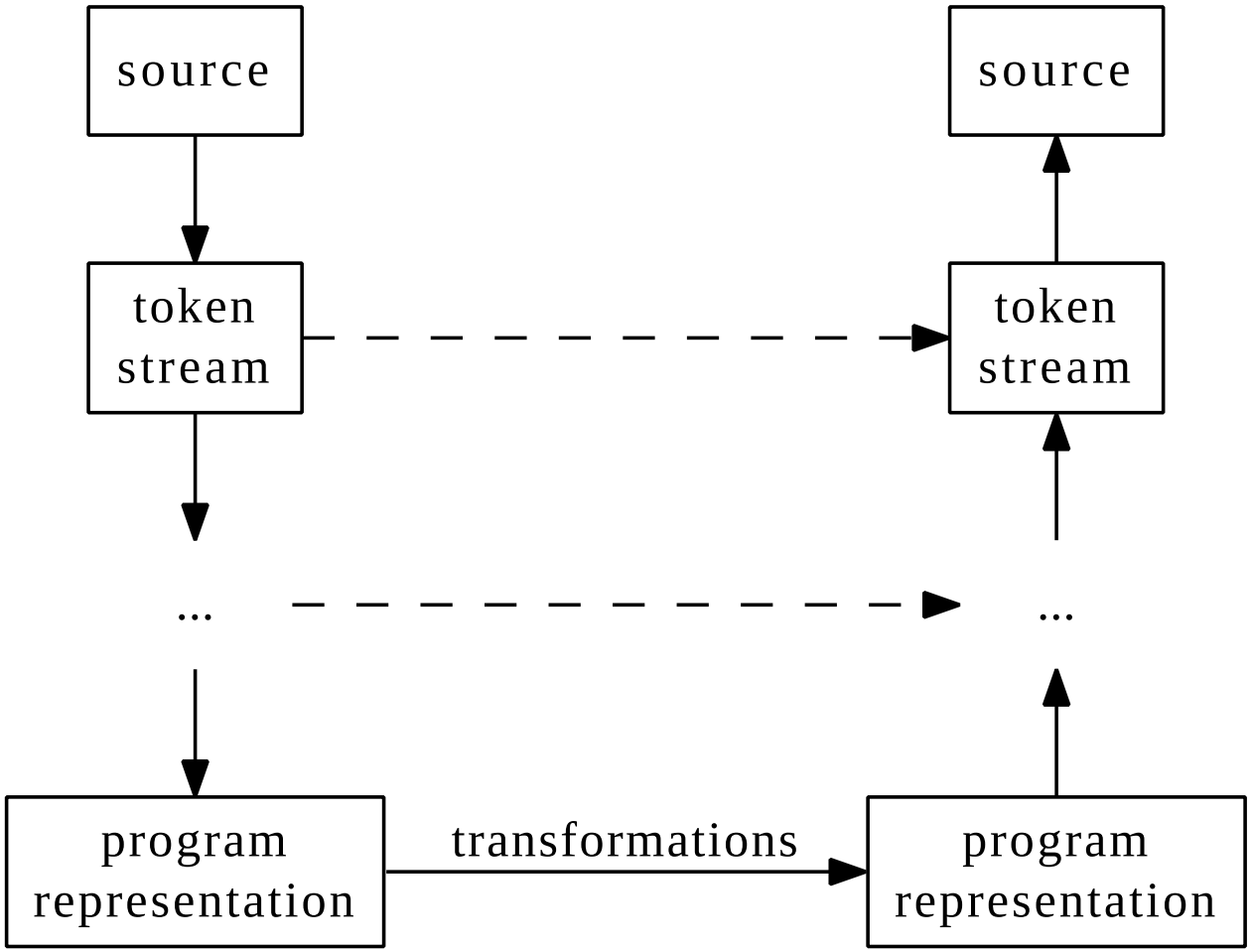
New approach



Advantages

- Program transformations are easier to be described if the documentary structure may be discarded
- Is sufficient to process only the actual layer
- This representation is also suitable for analysing and refactoring the documentary structure of the source code

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Layers

- Token formattings
- Comments
- Layout

- Further layers can be defined

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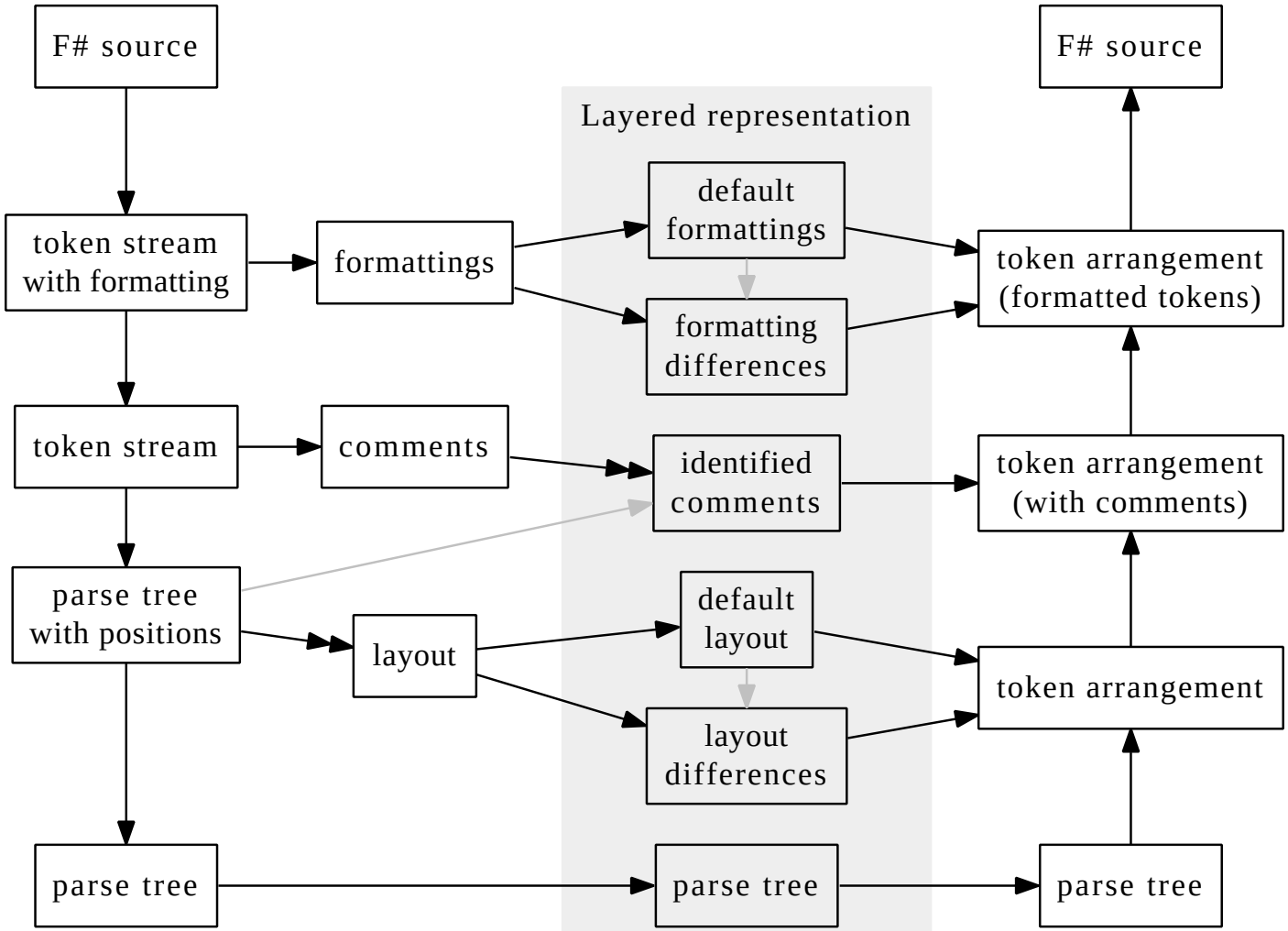
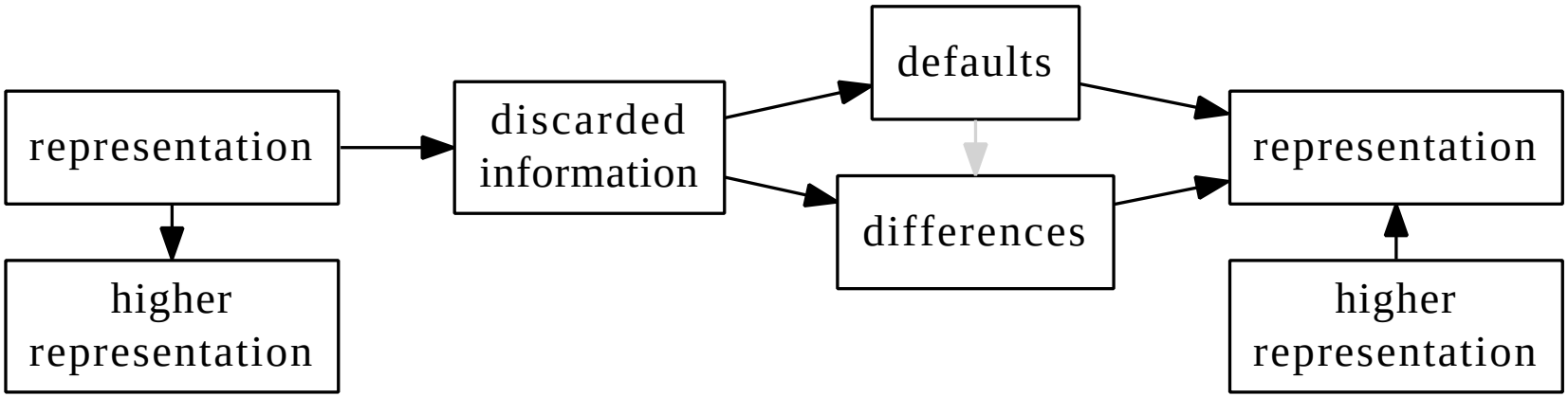
The detailed model



One layer



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- Differences

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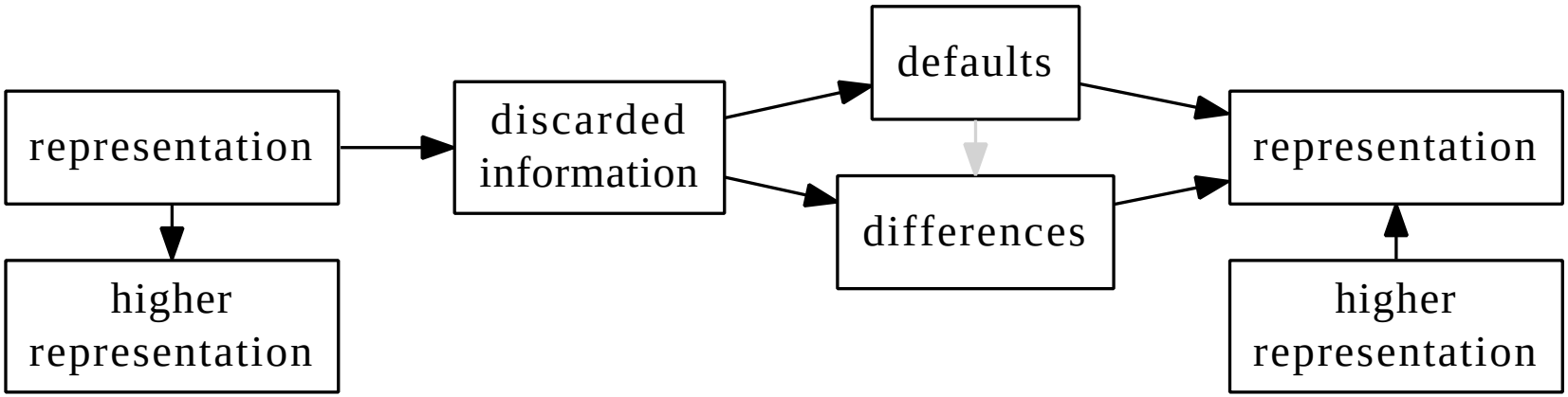

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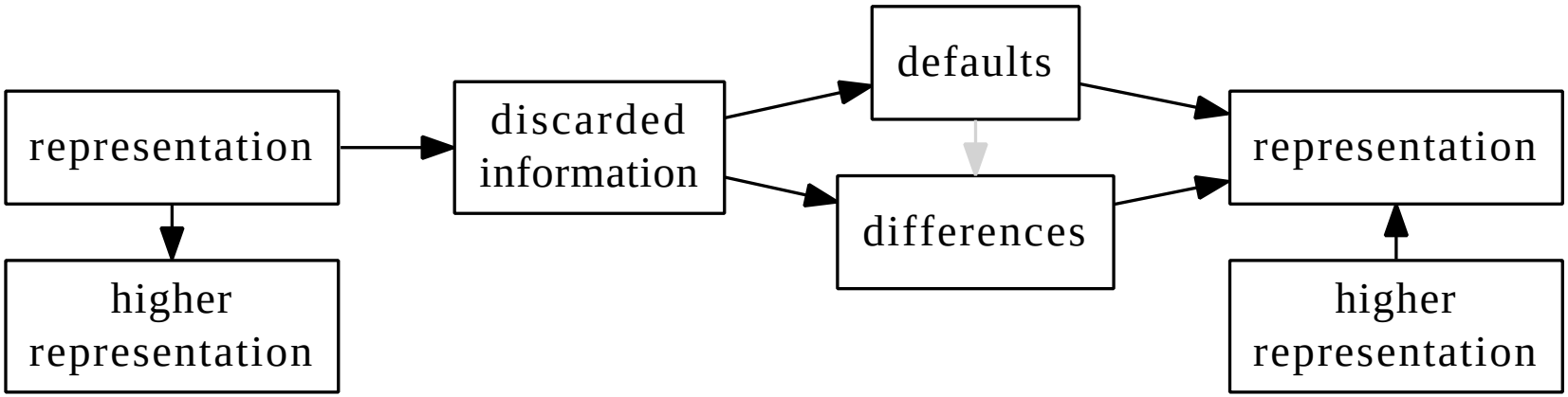

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Advantages in practice

- Standardize the layout of a source code
- The code after refactoring will be in the default style
- The implementation of program transformation steps is easier
- Refactor in the comments

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Homepage of our project:
`http://plc.inf.elte.hu/fsharp/`