

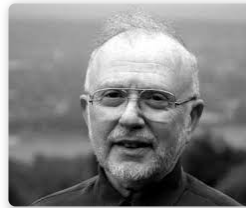
Information Hiding

The **Time** structure from the last lesson did not enforce its invariants.

Structures use "naked" variables to represent data, so **any part of the program** can modify those variables without any validation. **Time** **expects** certain relationships between its data members, **but cannot enforce those relationships**.

In addition, **Time** is **represented in a particular way**, as two **int** data members. Thus code that uses the **Time** type is **tightly coupled to that implementation**.

These problems with structured data were noticed in the early 1970s by a Canadian Computer Scientist named **David Parnas**, who developed a theory of **information hiding**, and who led the drive towards **modular programming** with his famous 1971 paper, *On the Criteria to be used in Decomposing Systems*, written at Carnegie Mellon University.



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