



# Anti-modularist arguments against Fodorian modularism: Quantitative fallacies and confusions

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## Fodorian modularism

Fodorian modularism is an empirical hypothesis about the structure of the mind, with great relevance for philosophy of mind, epistemology, and philosophy of science. In its original formulation (Fodor, 1983), its **central theses** are:

- (1) Relatively low-level perceptual and linguistic processes are typically **modular**.
- (2) Modular processes typically co-exhibit a particular **cluster** of nine properties.
- (3) Relatively high-level cognitive processes like belief fixation are typically **nonmodular**.

To a first approximation, a **modular system** is:

**domain specific:** the range of properties it can project hypotheses about is limited

**cognitively impenetrable:** the range of information accessible for hypothesis projection is limited

**hardwired:** not assembled from more primitive systems

**autonomous:** largely independent from other processes

Fodor (2000) is now noncommittal about (2). Importantly, he still believes that most mental systems are nonmodular.

## Quantitative objections and replies

Anti-modularists like Prinz (2006) argue that Fodorian modularism is implausible. Here, I focus on idealized versions of some representative quantitative challenges.

### Argument from non/satisfaction of modular properties

For any modular property M, *some* of the best candidate modular systems do not, whereas *some* of the worst candidate systems do, exhibit M.

This is consistent with the claim that candidate modular systems **typically** do, whereas non-candidate systems **typically** don't, exhibit M.

### Argument from nondiagnosticity

For any modular property M, it is *not* more likely that an M-exhibiting system is modular, rather than nonmodular.

It doesn't follow from M's being more typical of modular systems that it is also **individually** diagnostic (predictive) of modular systems. Consider the following scenario:

| Occurrence of modular property M in modular and nonmodular systems |                 |                    |       |
|--|-----------------|--------------------|-------|
|  | Modular systems | Nonmodular systems | Total |
| M present  | 95              | 95                 | 190   |
| M absent   | 5               | 1805               | 1810  |
| Total  | 100             | 1900               | 2000  |

The prevalence of M is much higher among modular (95%) than nonmodular (5%) systems. Yet the absolute number of M-exhibiting modular (95) and nonmodular systems (95) is equivalent. Accordingly, an M-exhibiting system is **not** more likely to be modular than nonmodular.

### Argument from nonclustering

For any modular property M, it is *not* more likely than not that an M-exhibiting system also co-exhibits the total cluster of modular properties.

Fodorian modularism posits that if a mental system exhibits **most** modular properties, then it is very likely to exhibit all properties. This is consistent with the claim that modular properties are not individually predictive of property clustering.

**Analogy:** No flu symptom is individually predictive of a whole cluster of flu symptoms: a fever can accompany almost any type of infection; a headache is characteristic of many conditions; etc. Yet given the occurrence of most flu symptoms, a full-blown flu is indeed very likely.

### Arguments from variation

For any modular property M, and for any mental system S, there is great variation in the level of M exhibited by S due to **between-task** and **inter-individual** differences.

It doesn't follow from large **within-system** variation between tasks or individuals that the **inter-group** variation between modular and nonmodular systems is insignificant.

**Example:** It is plausible that mental processing speed varies with computational complexity. This is consistent with the assumption that modular systems are in **average** faster than nonmodular systems.

## Conclusion

Anti-modularists may still argue that specific candidate modular systems are in fact nonmodular. For example:

### Argument from components

Even if some components of perception or language are modular, perception and language *per se* are not.

Yet Fodorian modularism never claimed otherwise. Accordingly, one may grant the modularity of candidate systems, but attempt to downplay their philosophical significance. For example:

### Argument from phenomenology

Insofar as the output of Fodorian modules is generally not phenomenally conscious, these modules have little (if any) relevance for philosophy of mind or epistemology.

This argument is itself suspect. In any case, questioning the relevance of Fodorian modularism is one thing; denying its truth or plausibility is quite another thing.

## References

- Fodor, J. A. (1983). *The Modularity of Mind: An Essay on Faculty Psychology*. Cambridge, MA: MIT Press.
- Fodor, J. A. (2000). *The Mind Doesn't Work That Way*. Cambridge, MA: MIT Press.
- Prinz, J. J. (2006). Is the mind really modular? In R. J. Stainton (Ed.), *Contemporary Debates in Cognitive Science* (pp. 22-36). Oxford: Blackwell Publishing.