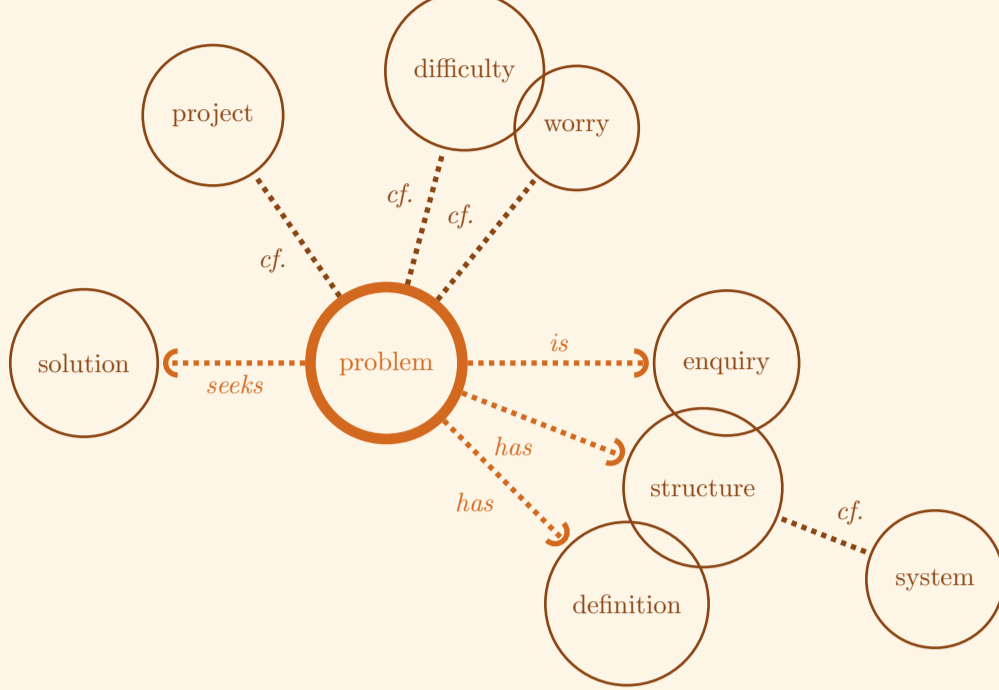


Note

The formal treatment of problems has been led by mathematics, assisted by the broader ‘physical’ science — i.e. *scientia* [L] or *επιστήμη* [Gk] — with varying degrees of innovation and creativity in the solutions (Perdicoúlis, 2015b).

Systems Planning<sup>SM</sup> addresses dynamic questions in planning and/ or management (e.g. ‘how did this situation arise?’, ‘how do we get out of this?’), shaped in its distinct ‘XYZ’ problem definition<sup>TM</sup> (XPD) method that facilitates examination and transmission of reasoning and stimulates creativity and effectiveness in the solutions (Perdicoúlis, 2010).

## 1 Concepts

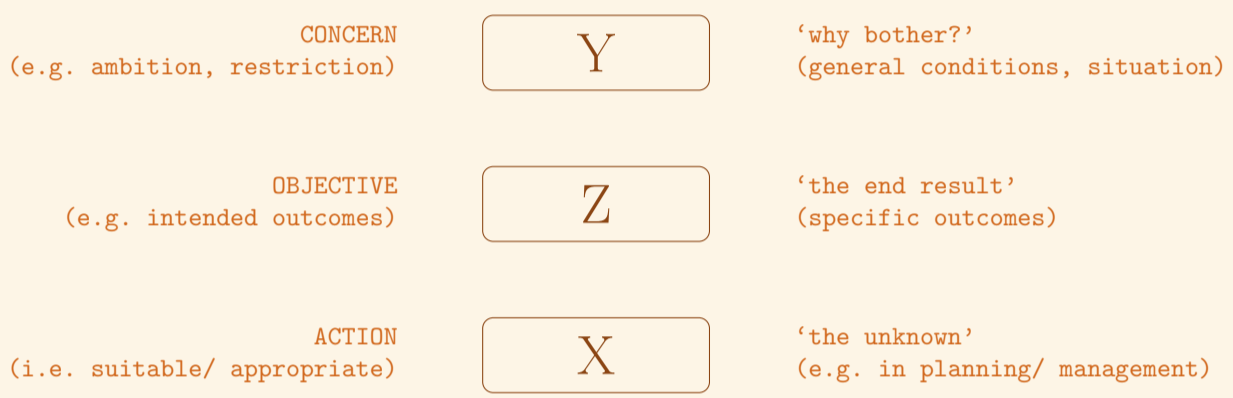


Concept association diagram (Perdicoúlis, 2014a) for ‘problem’ (Perdicoúlis, 2014c)

**PROBLEM** (from *προ-* [Gk], forward + *βάλλειν* [Gk], to throw) A question ‘thrown forward’ for contemplation and/ or academic discussion (cf. Project).

**PROJECT** (from *pro* [L], forth + *jacere* [L], to throw) An individual or collaborative undertaking that is carefully prepared to achieve a particular purpose (cf. Problem).

## 2 The ‘XYZ’ elements

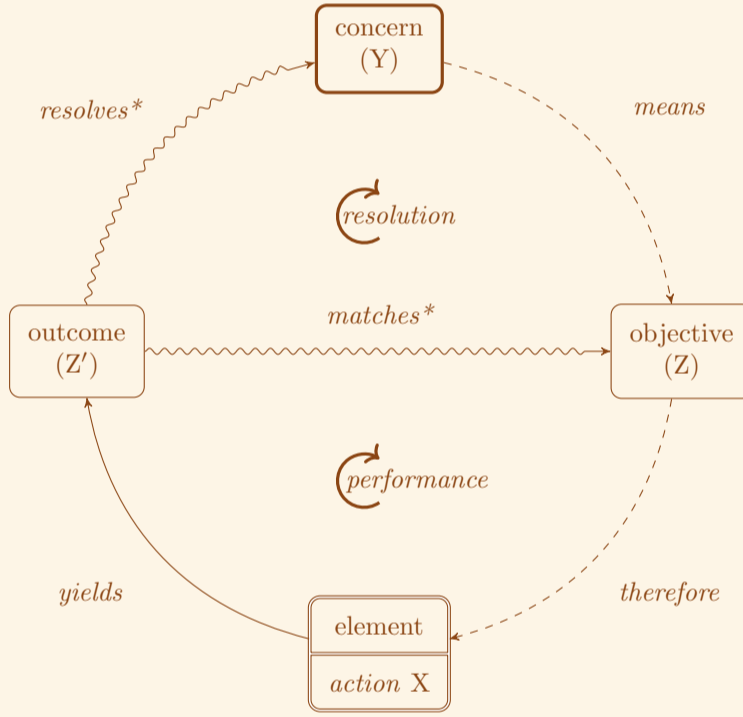


Problem elements, symbolic representation, and mnemonic facility in the XYZ<sup>TM</sup> model

## 3 The ‘XYZ’ structure/ Plan

The formulation of the complete planning problem in the ‘XYZ’ notation — including the solution (X), simulation, and assessment (Perdicoúlis, 2014a) — produces full arrangements known as *plans*<sup>a</sup> (Perdicoúlis, 2010, pp.58–66).

<sup>a</sup> i.e. detailed action proposals for doing or achieving something — e.g. business plan, development strategy

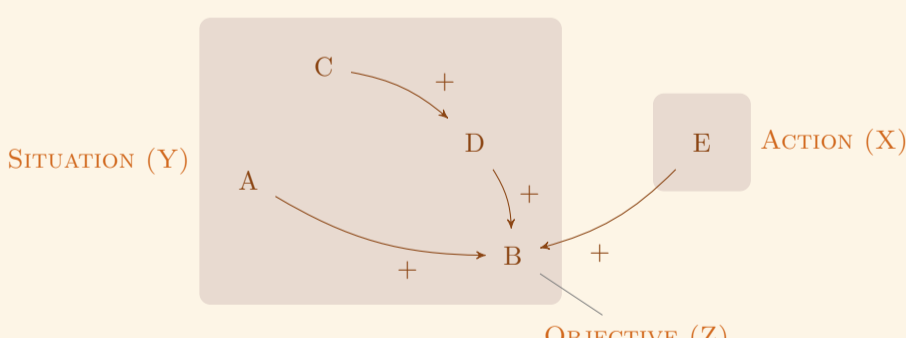


DCD (Perdicoúlis, 2014a) with the ‘XYZ’ problem definition<sup>TM</sup> (Perdicoúlis, 2014b)

## 4 Research problems/ questions

While ‘questions’ can feature one, two, or more parts (Perdicoúlis, 2013), the ‘scientific’ questions for *research* are best formulated as tripartite problems — for instance, in the ‘XYZ’ format (§§ 2–3).

As in mathematics, it is possible to solve for the ‘unknown’ when the two other elements of the problem are defined appropriately. Problems are ‘complex’ when at least one of the elements (e.g. the situation, objectives, or the solution) is a dynamic *system* (Perdicoúlis, 2014a).



Generic configuration of a ‘complex’ scientific problem, involving a dynamic system

## 5 Zoom Levels

### 5.1 Intent

In the ‘XYZ’ problem definition<sup>TM</sup> (XPD) method (§ 2, § 3), the concern (Y) aggregates and focuses the intended outcomes expressed by the objectives (Z). Inversely, the objectives (Z) specify and concretise the concern (Y) — a ‘breakdown’ in a single-stakeholder situation, or ‘conditioning’ when representing competing stakeholders (Perdicoúlis, 2014e). At the lowest tier of the intent pyramid (Perdicoúlis, 2014e) there are several popular *aides-memoir* — of diffuse credits and authorship — to check and orient *goals* (quantitative) and/ or *targets* (typically also time-stamped).

- SMART — Specific, Measurable, Assignable, Realistic, Time-related
- SMARTER — (same as above, plus ‘ER’) Evaluated, Reviewed
- CLEAR — Challenging, Legal, Environmentally sound, Agreed, Recorded
- PURE — Positively stated, Understood, Relevant, Ethical

### 5.2 Action

For each particular objective (Z), action (X) can be conceived either in general (strategic) or specific (operational) terms (Perdicoúlis, 2014a).

## Bibliography

Perdicoúlis, A. (2015b) *Invention*. Perdicoulis Publishing: Folio Division, Technical Collection.  
 Perdicoúlis, A. (2015a) *Communication*. Perdicoulis Publishing: Folio Division, Technical Collection.  
 Perdicoúlis, A. (2014e) Verbs of essence. *Systems Planner*, **29**.  
 Perdicoúlis, A. (2014d) *Science*. Perdicoulis Publishing: Folio Division, Technical Collection.  
 Perdicoúlis, A. (2014c) *Terminology*. Perdicoulis Publishing: Folio Division, Technical Collection.  
 Perdicoúlis, A. (2014b) *Methodology*. Perdicoulis Publishing: Folio Division, Technical Collection.  
 Perdicoúlis, A. (2014a) *Language*. Perdicoulis Publishing: Folio Division, Technical Collection.  
 Perdicoúlis, A. (2013) Research questions. *oestros*, **13**.  
 Perdicoúlis, A. (2011) *Building Competences for Spatial Planners: Methods and Techniques for Performing Tasks with Efficiency*. London: Routledge.  
 Perdicoúlis, A. (2010) *Systems Thinking and Decision Making in Urban and Environmental Planning*. Cheltenham: Edward Elgar.