

# SF2™

Systems Planning<sup>SM</sup> perceives *systems, processes, and plans* (Perdicoulis, 2014d) through their *structure, function, and form* (SF2™). This approach enables the *visualisation* of intangibles such as structure and function in the form of mental models, which helps turn the planning operation explicit.

Besides its *literal* sense (i.e. being able to see), the term ‘vision’ is also used *metaphorically* as the ideal state and/ or practice — e.g. streamlined structure, fluid function, tuned form (Perdicoulis, 2014i) — as one’s experienced *essence*, publicly perceived *image*, or both.

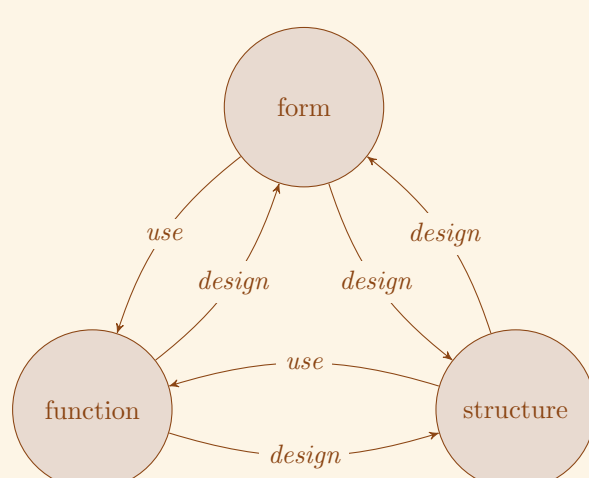
## 1 X-ray View™ on intangibles

Structure–Function–Form (SF2™) takes an X-ray View™ on intangibles such as structure and function, thus resolving critical visualisation needs — for instance, to *understand* (i.e. gain *insight* into) ‘what there is’, ‘how it is put together’, and ‘how it works’; *design* ‘how it should work’; *assess* how likely it is (or has been) to ‘work as expected’ (Perdicoulis, 2010).

NB: The term ‘X-ray’ is used metaphorically, in reference to the penetrating ability of physical X-rays (Röntgen radiation) to image the inside of objects, which otherwise remains invisible.

SF2™ facets

FACET	ABOUT	PLAINLY	MANIFESTATION	MEDIUM
Structure	organisation	‘how it is built’	relations, interactions, dynamics	SPML™ diagram
Function	operation	‘how it works’	qualitative (stepwise) simulation	SPML™ diagram
Form	manifestation	‘what there is’	appearance, design, perception	photo, maquette, drawing



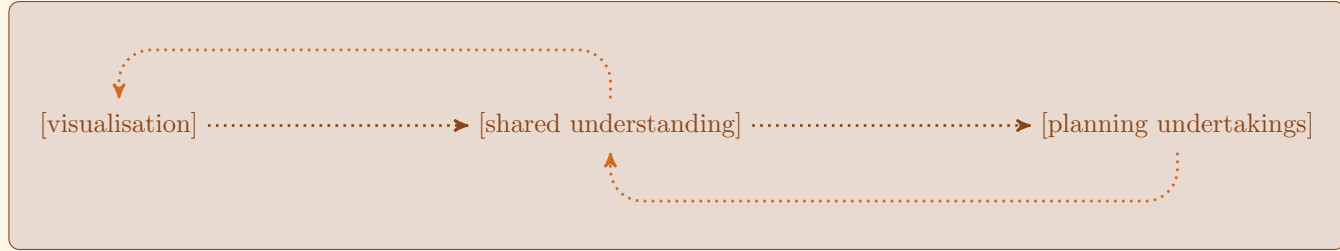
The SF2™ facets are related by operations (shown here) or information flows (Perdicoulis, 2014c)

SF2™ relations

PERSPECTIVE	MODE	TERM	SAMPLE RELATIONS
Scientist	discerning	discern	function $\xrightarrow{\text{discern}}$ structure
Scientist	predictive	forecast	form $\xrightarrow{\text{forecast}}$ function
Engineer/ Artist	creative	design	function $\xrightarrow{\text{design}}$ structure
User	practical	use	form $\xrightarrow{\text{use}}$ function

## 2 Explicit Planning™ modus operandi

The visualisation benefits of the X-ray View™ on intangibles (§ 3) lead up to an Explicit Planning™ modus operandi manifested in methods and techniques for common planning tasks (Perdicoulis, 2014a,b), all of which use shared *mental models* (Perdicoulis, 2010). In a wider scope, combinations of methods and techniques for *special-interest* planning functions are available as X-ray Packs™ (Perdicoulis, 2014h).



Explicit Planning™ protocol with optional information flow (learning/ refinement) feedback loops

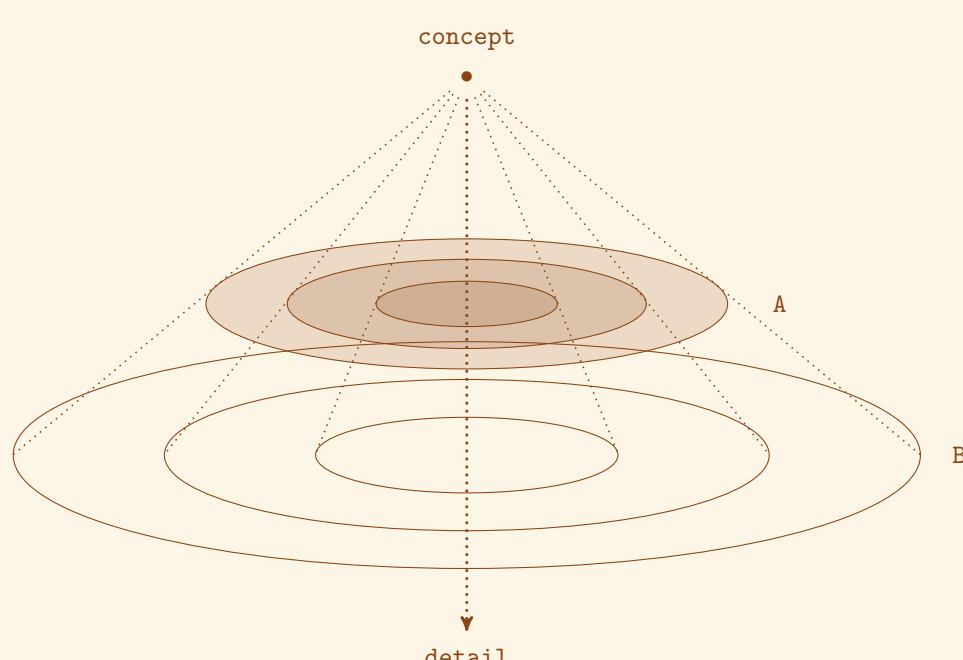
Explicit Planning™ principles

PRINCIPLE	NOTES
SYSTEM KNOWLEDGE	Visualisation of structure and function complement the visible form of the objects of planning (Perdicoulis, 2014d), and build knowledge and understanding out of the plain ‘blocks’ of data and information (i.e. indicators and indices)
VISUAL REASONING	The diagrammatic expression of arguments — <i>visual argument</i> ™ — turns the sharing and verification of mental models (e.g. ‘how things work’) and reasoning (e.g. inference) easier and safer than the classic text or spoken forms (Perdicoulis, 2014b)
STRUCTURED PROBLEM	A structured (e.g. ‘XYZ’) definition of the planning problem through appropriate semantics (Perdicoulis, 2014b) helps to focus on what is important, and also reduces ambiguity in the communication

## 3 Visualisation Adjustments™

Visualisation — as much as mental modelling (Perdicoulis, 2014e) — entails a careful selection of the *relevant* information. Conventional and/ or ‘light field’ (plenoptic) photography as well as X-ray (Röntgen radiation) optics provide for important *visualisation adjustments*™.

Stakeholder positions — perhaps in different ‘contexts’ or realities — correspond to alternative points of view (PoV), which condition the direction of view. At each PoV, a ‘scope-and-scale’ or ‘zoom-and-focus’ operation can be performed to reveal (a) the appropriate extent of the subject matter (e.g. the ‘scope’ indicated by a view cone or ‘zoom’ window) and (b) the suitable aggregation level (e.g. the ‘scale’ determined by the selected depth of ‘focus’ such as disk A or B).



Selecting the appropriate information with visualisation adjustments™

Examples of articulated aggregation-level ‘presets’ in different contexts

PRESET	PLANNING <sup>a</sup>	PROTOCOLS	PRO UTILITIES™	SF2™ VISION
A ( <i>abstract</i> )	Strategy	Methodology (SPM™)	Procedures	Explicit Planning™ (§ 2)
B ( <i>detailed</i> )	Tactic	Language (SPML™)	Maps	X-ray View™ (§ 3)

<sup>a</sup>For the hierarchy of key planning concepts, see Perdicoulis (2014e)

## Bibliography

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